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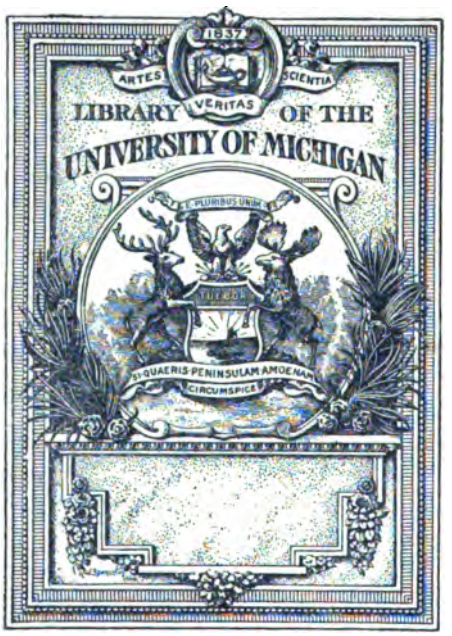

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THE

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A Weekly Medical Journal

EDITED BY

SMITH ELY JELLIFFE, A.M., M.D., PH.D.

VOLUME LXXVIII.

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ORIGINAL ARTICLES.

A STUDY OF EIGHTY-ONE CASES OPERATED UPON UNDER ANALGESIA OBTAINED BY SUBARACHNOID SPINAL COCAINIZATION.[1]

BY GEORGE RYERSON FOWLER, M.D.,
OF NEW YORK;
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THE extraordinary delay in the application of Corning's discovery to practical surgery no doubt arose from the fact that carefully administered general anesthetics have given such favorable results to the surgeon in the recent past, thanks to the evolution of the professional anesthetist, to such an extent that the possible advantages of the new method were lost sight of and its legitimate place in our science was in danger of being denied to it.

As in many other instances in scientific progress in which only the extreme swinging of the pendulum awakens a general and profitable interest, the profession in this instance is undoubtedly indebted to the enthusiasts who would employ the method in every case in which analgesia by means of spinal cocainization can be produced in the proposed operative area, for a proper appreciation of the indications for and limitations of the new method.

My experience with spinal analgesia embraces eighty-one cases up to the present time. These I have divided into the following classes:

Operations Involving Peritoneum.—Total number of cases, 26. These include 1 case of abdominal section for acute appendicitis; 1 case of abdominal section for chronic appendicitis; 2 cases of vaginal hysterectomy; 6 cases of radical cure of inguinal hernia; 3 cases of abdominal hysterectomy; 1 case of cholecystotomy; 1 case of ectopic gestation; 1 case of inguinal colostomy; 1 case of closure of fecal fistula; 1 case of incision and drainage of mesenteric cyst; 1 case of abdominal section for tuberculous peritonitis; 1 case of Albert-Frank gastrostomy; 1 case of double oophorectomy and salpingectomy, with urachus suspension of the uterus; 1 case of amputation of prolapsed rectum; 1 case of herniotomy for incarcerated and inflamed ventral hernia; 1 case of transperitoneal ligation of the external iliac artery; 1 case of closure of inguinal artificial anus; 1 case of one-sided oophorectomy and salpingectomy.

In five of these cases the analgesia was incomplete. Three of the cases of inguinal hernia were among these, the patients complaining of pain when the distribution of the ilio-inguinal and iliohypogastric nerves was invaded. One was a case of acute appendicitis in which manipulation of the inflamed appendix and surrounding peritoneum gave rise to complaints of pain. In the case of inflamed and incarcerated ventral hernia the patient complained so persistently when the inflamed peritoneal structures were handled that it became necessary to administer a general anesthetic in order to complete the operation. In another of the abdominal section cases, that of ectopic gestation, ruptured three days previously, the patient became frightened at the bustle and stir incident to a sudden renewal of the homorrhage as a large blood-clot was removed, and it became necessary to administer chloroform to quiet her.

In all the cases of abdominal section some embarrassment to the operator occurred at one or more stages of the operation, sometimes delaying the latter for a few minutes. Vigorous peristalsis of short sections of the intestinal canal was noted in all these cases, the contracted areas resembling hard, fibrous cords and presenting sharp borders between the contracted and non-contracted portions, suggesting an imminent intussusception. The patient complained when the hand, previously dipped in an alcoholic solution of sublimate, came in contact with the peritoneum. Perhaps a slightly increased difficulty, as compared with the conditions present under a general anesthetic, was experienced in retracting the edges of the abdominal wound in these cases. Patients did not complain of a moderate Trendelenburg posture, but did express discomfort when an extreme elevated pelvis position was maintained for some time.

Operations in the Pelvic Region not Involving the Peritoneum.—Total number of cases, 34. These include eight cases of hemorrhoids; 12 cases of plastic operation upon the floor of the pelvis and uterine curettage; 1 case of excision of suppurating vulvovaginal gland; 1 case of double orchidectomy; 2 cases of introduction of Harris' segegator; 1 case of urethrocervical fistula; 3 cases of excision of varicocele; 1 case of inguinal adenectomy; 1 case of inguinofemoral adenectomy; 2 cases of Volkmann's operation for radical cure of hydrocele; 1 case of excision of urethral carnucle; 1 case of fistula in ano.

In two of the cases of varicocele the patients complained of pain when the cord was handled, but not to an extent sufficient to render it necessary to employ local anesthesia, by applying cocaine directly to the parts, nor to administer a general anesthetic. In one case of anterior colporrhaphy and perineorrhaphy the sensa-

[1] Read before the Medical Association of Greater New York, December 10, 1900.

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tion to pain returned before the completion of the operation, and it became necessary to administer a general anesthetic.

Amputations.—Total number of cases, 5. These include 1 case of amputation at the hip-joint; 1 case of amputation about the middle third of the thigh for elephantiasis; 1 case of amputation at the upper third of the leg for gangrene of the foot and ankle; 2 cases of amputation of a toe for gangrene.

In all of these cases the analgesia was absolute and complete, and the length of time which it lasted was ample for the purposes of the operation.

Operations Upon the Lower Extremity not Included in the Above.—Total number of cases, 13. These include one case of incision of tenosynovitis of the inner hamstring; 3 cases of ligature of both internal saphenous veins for varicose veins; 1 case of arthrotomy of the knee; 1 case of suture of fractured patella; 1 case of excision of tuberculous ulcer of the thigh; 1 case of excision of enchondroma of the ankle-joint; 2 cases of excision of the astragalus; 1 case of excison of varicose ulcer of the leg; 1 case of tenotomy of the tendo-Achillis; 1 case of supramalleolar osteotomy for deformity following Pott's fracture.

In one of these cases, that of tenosynovitis, the patient was a child of ten, in whom but 5 minims of a 2-per-cent. solution was at first injected; after a lapse of fifteen minutes this was found to be insufficient and a second injection of five minims was made, after which analgesia was effected. In a case of ligation of the internal saphenous veins the patient, in spite of the fact that her eyes were bandaged and her ears stuffed with cotton, heard me call for a second knife after an absolutely painless incision of the skin had been made; thereafter she complained of pain upon the slightest touch. The operation of arthrotomy was upon a distended Charcot joint in a case of advanced locomotor ataxia. The analgesia in this case lasted for one hour and twenty minutes above the knees, and for three hours and forty minutes in the parts below the knees. In the case of supramalleolar osteotomy the patient could tell which bone was being chiseled, but at no time complained of pain.

Unclassified Operations.—Total number of cases, 3. These include one case of costal resection for gangrene of the lung and empyema; 1 case of nephrectomy; 1 case of incision of the abdominal wall for suppurating dermoid cyst.

In the case of costal resection the patient's condition was such as to absolutely prohibit the employment of a general anesthetic. While the parts incised before reaching the rib were analgesic, the patient complained greatly when the periosteum and intercostal nerve were peeled off of the bone. In the case of nephrectomy the patient declared her absolute disbelief in my statement, made at the completion of the operation, that I had removed her kidney. In the case of incision of the abdominal wall for suppurating dermoid cyst, the latter was situated in the umbilical region. The line of demarcation of analgesia ran across slightly below the point where it was necessary to incise and curette; it was interesting to note that this line persisted at the same level through the whole depth of the operation wound.

The technic of the lumbar puncture sounds simple on description, but is not so in actual practice in all cases. In stout individuals it is difficult to palpate the points of the spinous processes in the lumbar region, and, even in cases in which these are not masked by fat, a nervous patient, particularly when placed in the upright position, will stiffen the deep muscles of the back in such a manner as to render it almost impossible for the operator to confidently fix with the point of his finger the location of the spinous processes. The space between the third and fourth spinous processes is usually the most available, but either the space above or the one below this point may be utilized, if more easily identified.

Usually the cerebrospinal fluid flows readily enough when the needle has indubitably reached the canal, unless the lumen of the needle has become occluded in its passage through the soft parts. Contact with bone at a depth of two inches or less generally indicates, in an average adult, that this is encountered before the canal is reached and demands a change in the direction of the course of the needle; such contact at a greater depth is usually a sign that the needle has traversed the spinal canal, passed through the posterior common ligament and infringed against its anterior wall. A sensation of suddenly passing through a tense membrane and entering a free cavity is sometimes sensibly appreciated by the operator as the needle perforates the interspinous ligament, which, in the lumbar region is comparatively well developed. The use of a double needle will permit the operator to eliminate the accident of occlusion of the lumen of the instrument in cases in which he has reason to believe that the canal has been reached and yet no fluid flows. Removal of the inner needle under these circumstances will permit clearing without giving rise to the necessity for a second puncture. When a double needle is employed the inner or finer needle, projected beyond the outer for a half inch, will give the advantage of entering the spinal canal with a fine, rather than a coarse needle, the outer needle reinforcing the inner one, which, if made only just large enough for the cerebrospinal fluid to flow through and used alone would be too fragile for safety. Aspiration, either with the attached syringe or a special suction bulb, will enable the operator to obtain the cerebrospinal fluid promptly, as well as to control the amount removed and preserve the fluid for examination or use as a solvent for the cocaine to be injected.

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I usually allow a full minute for the injection, thus giving time for the solution to mingle evenly with the cerebrospinal fluid. The solution should be freshly made with sterilized water, and boiled for one minute before using. It is better to dissolve a given quantity in either ten or twenty minims of water. I have noticed no difference in the disagreeable symptoms whether a quarter or half a grain is used. For a short operation I use the former, and for a longer operation the latter. A concentrated solution of a definite quantity is no more likely to produce disagreeable symptoms than the same dose in a dilute solution, and its effect will last longer.

The position in which the patient is placed during the injection seems to affect but very little the result so far as the analgesia is concerned, although I have thought that the Sims' position rendered the patient more comfortable and tended to relax the back muscles.

Analgesia is present in the soles of the feet in from one to five minutes, and extends to the umbilicus in from five to fifteen minutes. In none of my cases did it fail to reach the umbilicus when it was effective at all; in two cases it reached to the vertex. In no case did the analgesia subside in the regions below the umbilicus under twenty-seven minutes (one case); in all the rest it lasted more than forty minutes save in one, in which it subsided in thirty-one minutes. If from one-fourth to three-eighths of a grain dissolved in ten minims of sterilized water be used, analgesia to and including the perineum may usually be depended upon for a forty-five-minute operation.

Probably the extent of the analgesia, as well as its duration, depends somewhat upon the amount of cerebrospinal fluid present in the individual case. Progressive dilution of the cocaine solution from the point of introduction lessens the effect of the drug upon the nerve structures with which it comes in contact, until, finally, if the amount of cerebrospinal fluid be large in the given case, this is practically nil at points high up in the spinal canal. The circulation of the cerebrospinal fluid comparatively free from cocaine through the lymph-spaces in the nerve-structure, washes out the cocaine solution carried to these by the cerebrospinal fluid when the injection is first made, until, finally, the cocaine is so diluted in the general bulk of the cerebrospinal fluid as to be useless for the purposes of analgesia.

Failure to induce analgesia may be said in general terms to be due to failure to inject the solution into the spinal canal, providing the solution is trustworthy. That fluid other than that from the spinal canal may be procured by aspiration, I know from experience. I have known operators to inject the cocaine solution when no fluid has been procured. The result has been only what could have been expected, namely, failure to produce analgesia. In one of Laplace's cases[1] the failure was attributed by the operator to probable syphilitic disease of the meningeal sac at that point.

From the very first case in which I used the method (September 8, 1900) I have employed a preliminary injection of cocaine at the seat of proposed puncture in order to avoid possible involuntary movements on the part of the patient, when the latter was made, and consequent risk of breaking the needle in the deeper parts. I have also made a slight puncture with the point of a scapel for the purpose of minimizing the dangers of conveying infection within the spinal canal from the skin itself.

In the majority of my cases one or more of the disagreeable features, so well known to be incidental to the method, have been present, namely, vertigo, nausea, vomiting, headache, chills, rise of temperature and increased pulse-rate, pallor, cold sweat, and involuntary defectation and urination upon the operating table. In some cases a slight cough has preceded the nausea. That all of these are due to the drug *per se* I cannot admit in the face of the fact that they have occurred to an equal extent whether large or small doses were used, as well as in cases in which antipyrin or chloretone was alone administered. Not only this, but in one case vertigo, pallor, cold sweat, sighing respiration, increased pulse-rate with lessened force, cough, nausea and vomiting all took place when the puncture was made and a drop or two of cerebrospinal fluid withdrawn, and before any injection whatever had been made.

Vertigo has been complained of by the patient while upon the table in three cases only, including the one just cited. Nausea came on in from five to ten minutes in about half of the cases, and actual vomiting in about two-thirds of these. In the majority of instances in which vomiting took place it subsided in less than two minutes, generally when the stomach was emptied of the fluid taken or gastric secretion present. Exceptionally dry retching was troublesome for a few seconds at a time later on during the operation. Headache occurred in about two-thirds of the cases after the patient had been returned to the ward, and at periods varying from one to six hours. Its duration and severity varied greatly from a transient frontal distress to severe general cephalalgia lasting for from twenty-four to forty-eight hours. In the mild cases it disappeared spontaneously, while the severe cases resisted all the usual remedies. Rise of temperature has been noted in all the cases. This likewise has presented all graduations, from an evanescent elevation to a decided and comparatively prolonged febrile disturbance. In one case the temperature reached 106.8° F. in less than four hours. Pronounced chills were observed in only four cases. Increased pulse-rate alone has always seemed to me to be an incident of the nervousness of the patient, rather than the immediate effect of the injection, for the reason

[1] Phila. Med. Journal, Nov. 3, 1900.

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that in the majority of cases it has been less when the patients left the operating-table than when they were placed upon it and just before the injection was made. These features frequently corresponded, upon the patient's return to the ward, to the condition present at the last observation before being taken to the operating-room. There has seemed to me to be some relation between the nausea and vomiting and the force of the circulation. When the former has been most pronounced the heart's action has been the feeblest. In recent cases I have attempted to guard the heart during this, the most trying portion of the seance, by a preliminary injection of one-tenth of a grain of strychnine, and with some success.

Involuntary defecation took place in less than one-eighth of the cases. The patient was conscious of its occurrence in four out of the five cases. In all but one it occurred during an act of vomiting. In one case the patient had a bowel movement and urinated involuntarily while lying perfectly quiet, and was not conscious of the occurrence of either. In all of the cases in which the sphincter ani relaxed beyond the patients' control the customary preparation, including a purge the night before, had been made. In one, a case of hemorrhoids, the patient had no preparation whatever. No nausea nor vomiting took place, although he had eaten a hearty meal a few hours before. I do not look upon this observation as of value, however, until confirmed by further experience.

Pallor, cold sweat and sighing respirations have only occurred when nausea, vomiting and diminished circulatory force have been present, and have disappeared with these latter. This entire aggregation of symptoms, save the nausea and vomiting, have been decidedly lessened since I began the preliminary use of the tenth-grain dose of strychnine hypodermically administered. Inasmuch as the dangers from the method probably relate to circulatory failure, whether this be from the effects of the drug itself, or the result of the disturbance of the nerve centers by increase or decrease of the intraspinal pressure or the presence of fluid foreign to the normal environment, I deem it important that provision be made against this contingency by the preliminary use of a full and sufficient dose of strychnine.

Beyond mere rumor, I have no information as to deaths occurring after and attributed to the use of spinal cocainization. In a recent discussion upon this subject it was stated that deaths had occurred, but no authority was given. These rumors came to me while in Paris last summer, but could not be traced to a trustworthy source. Severneau of Bucharest, in his remarks before the Thirteenth International Medical Congress, although he alluded to the general weakness observed in his group of cases, numbering seventy, did not speak of any deaths, although he took a conservative ground in regard to the method. Tuffier, whose case in which death occurred on the day of the operation has been referred to by those who think adversely of the method, detailed the post-mortem findings, which included both cardiac and pulmonary lesions, in this case and distinctly stated that, in his opinion, the injection of cocaine had nothing to do with the death. Pitesci of Bucharest, with a record of one hundred and twenty-five cases, the same number operated upon by Tuffier under spinal cocainization, reported no deaths, although he stated that two deaths have occurred from its use in Roumania[1].

My own cases are not selected ones. Cardiac, renal and pulmonary lesions have been disregarded for the sake of giving the method an absolutely fair trial. Many of the patients had heart murmers, not a few were the subjects of degenerative kidney disease, and one, at least, suffered from the gravest of all pulmonary lesions, namely, gangrene of the lung, from which he died a week later. One patient had actual suppression of urine, which was unknown to me at the time of operation. The patient upon whom amputation at the hip-joint was done was an exceedingly weak and feeble old woman of sixty-eight. The patient upon whom Albert-Frank's gastrostomy was done was a half-starved subject with occlusive carcinoma of the esophagus and esophagotracheal fistula. The case of tuberculous peritonitis was in a patient far advanced in the disease and greatly emaciated, and in whom an incision from the ensiform cartilage to the symphysis pubis was made. It was necessary to extend the incision upward in order to reach a gastric ulcer which I had suspected to exist, and which I saw perforate through a small and distinctly circumscribed gangrenous patch upon the anterior stomach-wall just as the edges of the incision in the abdominal wall were retracted. The case of tuberculous ulceration of the thigh was that of an exceedingly feeble old man of sixty-three, upon whom double castration for tuberculous testicle had been previously performed. The amputation of the leg was done on an old and feeble woman of sixty-nine, with arterial sclerosis, gangrene of the foot and ankle, and the dry tongue and low mental condition of septicemia. Another case was one of advanced degenerative disease of the spinal cord itself. The ectopic gestation was in a woman who had lost a large amount of blood. The nephrectomy patient was thoroughly septic and died ten days afterwards of general exhaustion and pyemia, the autopsy showing old foci of infection in the remaining kidney. The inguinal colostomy was done on an extremely feeble old man with advanced cancer of the rectum, with albumin and hyalin and granular casts in the urine. Time,

[1]My impressions of these matters, gathered on the spot and at the time the subject was under discussion at the Congress, are confirmed by the correspondent of the *British Medical Journal*, whose information was derived from the official records. (See *British Medical Journal*, Aug. 25, 1900.)

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however, will not allow me to refer to these at greater length. Suffice it to say, however, that these patients, in whom a general anesthetic was unsuitable in the judgment of any surgeon, showed, as a rule, less pronouncedly alarming effects from the spinal cocainization than many of the younger and far more vigorous subjects in my list.

I have endeavored to employ antipyrin alone, following the suggestions of Nicoletti of Naples, who reported at the Paris Congress some successful experiments with this drug upon dogs. In the first case I could not be sure, owing to the fact that the patient was a stoical Italian woman who spoke no English, of its analgesic effects. In a second case this drug failed entirely. In another case I injected 15 minims of an eight-per-cent. solution of chloretone, it being alleged that this agent is an analgesic, which, experimentally, had been shown to exist unchanged in the cord after injection. This also failed to produce analgesia. A combination of antipyrin and cocaine seemed to give somewhat better results proportionate to the amount of cocaine employed, so far as the analgesia was concerned. I am not prepared to state at this time just what advantages may be derived from endeavoring to lessen the amount of cocaine by using a mixture of this with other agents. Up to this time the after-effects of these mixtures, as well as those following the injection of fluids other than cocaine, have not been less than in cases in which cocaine alone was used.

In closing I wish to state that, in spite of my favorable experiences with spinal cocainization, I hold to the proposition that the ideal anesthetic agent is one which, with absolute safety, will render the patient entirely oblivious, not only to the pain of the operative procedure, but to each and all of its disagreeable features as well, including knowledge of the surroundings, the fear and prolonged dread of a fatal result during the operation itself, this being possibly enhanced in the case of a patient fully conscious, by the thought that his life hangs upon the point of the surgeon's knife, and that the slightest movement involves the greatest danger. These, together with the disagreeable incident of vomiting, to say nothing of the disgusting occurrence of involuntary urination and defecation while upon the operating-table, should be eliminated from the conscious environment of the patient, whenever possible, with absolute safety. These propositions are self-evident in all cases, but are particularly true in surgery. In obstetric practice, on the contrary, even in the case of a primipara, the patient is more or less prepared, by long looking-forward to the important and crowning event of her maternal instinct, for not only painful, but disagreeable and what under any circumstances cannot but be disgusting features of that event. Not so in surgical practice, in which the announcement of the necessity for an operation is a shock in itself, from which the patient scarcely has time to recover before being called upon to undergo the ordeal itself. While, in certain exceptional instances, the patient will dread the enforced loss of consciousness, the greatest fear on the part of the latter arises from the supposed dangers incident to the anesthetic agent. Take away this fear and the positive promise of an absolutely harmless *nepenthe* will far outweigh the suggestion of an experimental analgesia.

I am impelled to make these remarks by a consideration of the matter from the standpoint of the patient's own feelings, a point of view which cannot be ignored. That the ideal anesthetic has not yet been discovered, is unhappily only too true; that this much-to-be-hoped-for event will come along the line of thought suggested by general rather than local anesthesia or simple analgesia, and through an elimination of all the disagreeable features of the surroundings, rather than a more or less transient suspension of the pain-transmitting function of the nerves involved in the operation, I am persuaded.

At the present time we may only say that Coming's method has an undoubted sphere of usefulness in surgery. The indications for and limitations of, as well as whatever danger may attend its employment can only be determined by further trial and careful study of a large number of cases.

THE HISTORY, AIM AND PURPOSE OF THE MEDICAL SOCIETIES OF THE STATE AND COUNTIES OF NEW YORK.[1]

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THERE is in the thought and feeling of every true American, a sense of reverence which steals over him, permeating and thrilling every fiber of his body, when he reads and thinks of the history of his country, and pictures to himself, in all grandeur and majesty, the nobleness of character and the self-sacrificing labor of the people who fought and died in the creation of this great Republic.

There should arise in the thought of every member of the Medical Society of the County of New York a feeling second only to the reverence and admiration he feels for the United States of America and its constitution, when he remembers the history of his Society and all it stands for. The Constitution of the United States stands for the protection of the rights of man, while the constitutions of the Medical Societies of the Counties of this State stand for the protection of the public health. The Government of the country recognizes no creed, and the Medical Societies of the

[1]Read before the Medical Society of the County of New York, November 26, 1900.

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Counties of the State of New York but follow this example when they recognize no creed.

The Medical Society of the County of New York is only one of many such societies, all of which are parts of the Medical Society of the State of New York. This system of medical societies was created by Act of Legislature in 1806, and is no new and untried experiment; its organization dates from the early years of the State government itself. When we consider that in 1806 the Constitution of the United States was in its nineteenth year, and that the government of the State of New York was then only in its twenty-ninth year, we begin to feel that in our Society it is not a child that we have to consider. This organization has lived through many trials and vicissitudes, but year after year it has held its sessions, fulfilling its proper functions, until now, in the ninety-fifth year of its existence, it stands in relation to the State just where it stood in 1807 under the presidency of Dr. William McClelland; where it has stood ever since, and where we sincerely hope and trust it will stand as long as the State government exists, as the representative of the regular medical profession of the State of New York and the proper guardian of the public health. The Medical Society of the County of New York is part and parcel of the Medical Society of the State of New York, and what we say of one applies to the other, and to the society of every county in the State.

This organization is a scientific body; that is, it is made up of members who are versed in the science of medicine. One of the functions of this organization is the dissemination and propagation of the knowledge and the science of medicine. This, however, is not the principle motive for its creation and the perpetuation of its existence. This Society was organized by the Legislature under Chapter 138 of the Laws of 1806, for the purpose of "regulating the practice of physic and surgery in this State," and, while there was a period of about thirty years when this Society had little or nothing to do with the regulating of the practice of physic and surgery, because there was no regulating done, whenever there has been any effort made to regulate this practice it has been through the good offices of this Society, and the Legislature has delegated to this Society the burden of the enforcement of the State's medical laws.

At the time of the American Revolution there were about thirty-five hundred practitioners of medicine in the American Colonies, of whom only four hundred were educated physicians. Indeed, prior to 1768 there were no colleges in the American Colonies where the degree of doctor in medicine could be obtained. In that year (1768) the first degrees in medicine were conferred on ten men by the Medical College of Philadelphia. Between the years 1768 and 1776, when war suspended the operations of the Philadelphia Medical College and King's Medical College—now the Medical Department of Columbia University—fifty-one medical degrees had been conferred. All other practitioners of medicine either obtained their degrees abroad or practised without degrees.

Virginia as early as 1739 made laws regulating the fees of practitioners of medicine, and in 1760 New York enacted a law compelling physicians to pass an examination in physic and surgery, which, inasmuch as it was conducted by the Judges of the Supreme Court, the Attorney General and the Mayor, was probably not very rigid. The American Revolution coming in 1776, and the country being in a more or less disturbed state after the cessation of hostilities, it is doubtful if any adequate measures were adopted to regulate the practice of medicine until 1806, when the Medical Society of the State of New York and its county branches were established. This law creating medical societies marks an epoch in the history of medicine. It is entitled "An Act to incorporate medical societies for the purpose of regulating the practice of physic and surgery in this State," and gave to the societies so incorporated the right to examine students in medicine and grant licenses, as well as to prescribe the methods of practice.

We see from this how great the esteem in which the medical profession was held by the public. The Legislature, recognizing the necessity of regulating the practice of medicine in order to properly protect the health of the community, created these medical bodies, one in each county, with one member from each county society to make up a central body or head, not for the purpose of protecting practitioners of medicine, not for the promotion of medical science, not for the purpose of perpetuating good fellowship, nor for the creation of a code of ethics. The sole object of this enactment was, as stated in the title of the Act, "for the purpose of regulating the practice of physic and surgery," in order that the citizens of the State might be protected from incompetent practitioners of physic and surgery. The State by this Act created a special department which became an integral part of the machinery of the State, and to this department was given authority to examine students and grant licenses to practise medicine, and to prescribe the method of practice. Without a license so obtained no physician could legally practise medicine. This relation continued to exist between the State and the various County Societies for thirty-eight years with slight changes. The law was re-enacted in 1813, and in 1814 the creation of societies in counties set apart since the Act of 1806 was legalized.

In 1818 a law was passed allowing certain county societies to change the date of meeting when it occurred on the same day on which the Court of Common Pleas met. It authorized medical colleges to send each a delegate to the State society, and it directed every practitioner of medicine in the State to report himself to and connect himself with the medical society of the county in which he resided. In 1819 a law was enacted authorizing each county medical society to tax each physician in the county a sum not exceeding one dollar a

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year, for legitimate expenses. In 1830 the revised statutes re-enacted all these previous Acts. In 1837 and 1839 the University of the City of New York and the Albany Medical College were authorized to send delegates to the State society. So matters continued, the Legislature yearly strengthening the power of the State society, until in 1844 a law was enacted (Chapter 274, Laws of 1844) removing all the restrictions hitherto existing and allowing any person, regardless of qualifications, to practise medicine. This radical change was brought about by the spirit of intolerance which had grown up in the medical profession, fostered no doubt by the provisions of the Act of 1806, which directed county societies to prescribe the methods of practice which should be the only legal methods. It seems strange, indeed incomprehensible, that at so late a period as 1844 there should be found anywhere in liberty-loving America, in its largest State, and above all in a profession which is now at least a liberal one, a feeling so intolerant of the rights of others that, because a colleague differed in opinion as to methods of practice, the entire profession should not only ostracize him, but prevent him practising medicine, robbing him of his social standing, and preventing him following the only occupation he was, perhaps, capable of following.

We wonder at the narrow bigotry and benighted ignorance of the New England Puritan in 1692, when in three months twenty-three persons were hanged at Salem as witches, or because they were "possessed of the devil." We wonder at the intolerance of a hundred years later when men were disenfranchised because of their religious beliefs, but we find this same spirit of intolerance dominating the medical profession in 1842, when a member of the Orange County Medical Society was expelled for practising contrary to the prescribed method, and again in 1867 when the Westchester County Society expelled a member for buying sugar of milk at a homeopathic pharmacy. Many of us, no doubt, think we have happily left all these narrow feelings far behind us, and that there exists now no such intolerance as was possessed by the generation which preceded the one in which we live, but those of us who are most familiar with the political events which are occurring in medical affairs know that this spirit still exists, and that there is an association in the State of New York, with its home in the City of New York, organized for no other purpose than to keep alive this intolerant and un-American spirit, and which has prevented the Medical Society of the State of New York accomplishing many needed reforms in medical affairs.

Every society or organization the years of existence of which are counted in decades, has been party to transactions which appear to its members of succeeding generations as reprehensible, and the Medical Society of the State of New York is no exception to this rule, but, whatever may have been the errors of the past, the Medical Society of the State of New York and its county branches present to the world the proud distinction of being the only medical body of its kind in the United States in which freedom of thought and action is tolerated, the members of which are restricted by no narrow bonds, and in which the only requirements of membership are liberality and broad-mindedness.

Prior to 1844 there was but one legal school of medicine in this State; indeed, under the law there could be but one, and that the one provided by the State Society and its county branches. There were then none of the refinements of medication which we possess to-day; the recognized methods were blood-letting, blisters, cathartics and emetics, and it was heresy to advocate any other methods. People who fell victims to disease died often because of the heroic measures employed to counteract the maladies which afflicted them. Indeed, many physicians began to feel that more patients would recover if Nature was left unaided to fight the disease. Few, however, had the temerity to voice these sentiments, and the few that did suffered ostracism because of their expressed views. In England Sir John Forbes incurred the displeasure and contempt of his fellow practitioners by expressing his belief that no treatment at all was better than the treatment then in vogue. This was the condition of affairs in the early part of the nineteenth century, and it is little wonder that when Hahnemann began to teach his doctrines he soon found many followers. Any method was better than the methods then practised. Homeopathy came at this time as a welcome variation, which would have been tried, tested and discarded years before it was had it not been for the intolerance of the regular profession. There would have been no homeopathic school of medicine, there would have been no code of ethics, and possibly we would not have had our present medical laws. However, those who wanted to and did practise homeopathy were expelled from their county societies for so doing, and as such expulsion under the law was equivalent to being debarred from practising medicine, they united and secured the repeal of the medical laws as a matter of self-protection.

For thirty years the State of New York had no medical laws for the protection of the public health. There was a section of the law which repealed the former law, providing that a practitioner of medicine was liable for damages for maltreatment, but there was no law requiring either education or training on the part of these practitioners.

This deplorable condition of affairs, which was not confined to New York State, led to the meeting of the regular profession from all over the country in New York City in 1846, and the forming of a voluntary body for the improvement of the practice of medicine and for self-protection. This organization is now known as the American Medical Association and its organization is antedated by that of the American Institute of Homeopathy, which was created in 1844, both being created for the same purpose. Opposition between

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the adherents of these two bodies continued with increasing bitterness, and in the State of New York prevented the enactment of medical laws which would properly protect the entire community.

Various laws were enacted, it is true; but the proper protection of the public health, by the enactment of a law along the lines laid down by the Medical Society of the State of New York in a resolution passed by that body in 1839, advocating the separating, as far as possible, of teaching and licensing bodies, was rendered impossible by the antagonism existing between the various branches of the medical profession representing the different schools of medicine. The regular school of medicine refused to recognize the homeopathic and eclectic schools, refusing to meet the members of these latter schools in consultation, until in 1882 the Medical Society of the State of New York by a substantial majority abolished the code of ethics, thereby allowing its members the privilege of meeting any legal practitioner of medicine in consultation. The far-reaching influence of this action on the part of the State society has been greater, perhaps, than many of its advocates at the time contemplated, although there may have been those among them who realized what the result would be.

The first effect of this action was to bring the warring elements closer together, and as they began to see how similar they were in many particulars and how their constant strife prevented the enactment of laws which would benefit themselves and the public at large their interests began to appear identical, and as the result the present medical laws were enacted.

These laws stand to-day as a monument to the Medical Society of the State of New York and its county branches. Being the oldest and most representative medical body in the State, the State society has always taken the initiative in matters of this kind and through its efforts, seconded by the representatives of the homeopathic and eclectic branches of the medical profession, there has been placed on the statutes books a law governing the practice of medicine which has been and is a model from which many other States have drawn inspiration, and which serves as a guide which other States have been glad to follow. To gain the right to practise medicine in the State of New York to-day means something. It means that the man who has gained this right has demonstrated to an impartial board that knew him only by number, his ability to practise medicine, and the certificate of proficiency granted by the State, as the result of this examination, stamps the successful candidate as the peer of any practitioner of medicine in the world. It makes no difference who the candidate is, from how many colleges and universities he may have received degrees and diplomas. He may possess a name which is known the world around, yet if he desires to practise medicine in the State of New York he must take his stand with the newest arrival and demonstrate his ability to the State Board. This examination is alike for all, regular, homeopathic and eclectic.

The opponents to this law claimed, and there are not wanting those who still make this claim, that the effect of this law would be to diminish the number of practitioners in this State, and that it was intended solely for the protection of those who already had the right to practise. A glance at the figures of the State Board of Medical Examiners will prove that this is not the case, as there has been a steady increase in the number admitted year after year. The number admitted in 1899 was 671, in 1895, 482.

The result of this law has been the raising of the standard of requirements in this State, and an improvement in the teaching of undergraduate schools, which has not only been beneficial to our own State, but has been an incentive to other States. There are imperfections in this law which prevent its proper inforcement. These imperfections should be remedied and would be were it not for the enemies with which the State and County Societies have to contend. There was a time when the enemies we had were only those outside our ranks; to-day the only enemy we have outside our ranks is the army of illegal practitioners, and these we could easily overcome; indeed, we could, in a short time drive this enemy out of the State of New York were it not for the enemy within our own gates.

The three branches of the medical profession recognized by the State, *i. e.*, the regular, homeopathic, and the eclectic, have worked hand in hand, and harmoniously, in securing the enactment of laws for the proper protection of the public health, and doubtless will continue to do so; there is, however, an organization which has done, and is doing, its utmost to overthrow the Medical Society of the State of New York and its county branches, and the Committee on Legislation of the State society is compelled to be constantly on the watch to frustrate the efforts of this organization. We refer to the New York State Medical Association and its county branches. This association represents a principle which is antagonistic to the medical laws of the State of New York, as well as to the spirit of the constitutions of this State and the United States. This principle was formerly upheld by the Medical Society of the State, and it resulted, as we have said, in the overthrow of the medical laws of the State in 1844.

When the State society refused to be governed by the Code of Ethics of the American Medical Association, it abolished also this principle, and made possible the enactment of the present medical laws.

The State Medical Association has representation in the American Medical Association, which latter is not a chartered body, but a purely voluntary organization, and which, as such, should not presume to dictate to the State Medical Society, which is a chartered body, and a part of the machinery of the State of New York. The State society has no representation in the American Med-

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ical Sociation, because it refuses to be governed by the Code of Ethics of the latter organization.

Now, why does the State society refuse to be governed by the Code of Ethics of the American Medical Association, which, on the surface, seems harmless enough? Because the Code of Ethics of the American Medical Association upholds a principle which is un-American, is contrary to the teachings of the Constitution of the United States, and is contrary to the dictates of humanity. The Code of Ethics has much to say about the dictates of humanity, but it ostracizes from the pale of professional intercourse and consultation any person who believes contrary to what the association thinks he ought to believe, and this is contrary to the spirit of the Constitution of the United States, which gives to every man, without penalty, the right to believe as his conscience or intellect directs.

No matter how much this code may dwell on the dictates of humanity, and the duty of the physician to his patient and to the community, when it says, "No one can be considered a fit associate in consultation whose practice is based on an exclusive dogma," it denies to humanity the very boon the regular practitioners claim to be able to bestow, namely, intelligent treatment. Medicine is not a commercial calling, nor is it so narrow that its followers should allow themselves to be swayed by whims and individual prejudices; we have always felt that the physician who refuses to give the benefit of his advice as a consultant because the attending physician may be one with whom he could not possibly agree, fails to appreciate the dignity and responsibility of his calling. Many physicians deny the benefit and need of consultations, when the consultants are members of the regular school, but surely no regular physician should hesitate to give the benefit of his knowledge to the patient who is being treated by one whose practice is based on an exclusive dogma.

True, those who uphold this Code do not refuse to consult with these so-called irregular practitioners; at least, this statement was made by the officers of the New York State Medical Association before the Senate Judiciary Committee at a hearing during the last session of the Legislature. Why, then, do they persist in demanding that we subscribe to this Code, which no one believes in, and which the officers and members of their Associations publicly discredit?

The first organized effort of the New York State Medical Association to dispute the right of the Society to represent the regular profession in this State was made in 1897, when the Legislature was petitioned to grant the Association equal representation with the Society in the State Board of Medical Examiners. This the Legislature refused to grant. The second effort was made during the last session of the Legislature, when the Association requested a special charter authorizing it to assist in the enforcement of the medical laws. The Legislature saw no objection to the Association having a charter and accordingly granted it, but refused to grant it the right to assist in the enforcement of the medical laws. In all its efforts before the Legislature the Association has failed to secure equal recognition with the Society, and now it has resorted to the courts.

New York City has on its hands a lawsuit which, if the legal authorities did not think was unjust, the city would have settled before this. This lawsuit is known as the New York County Medical Association vs. the City of New York, and, while it is nominally brought against the city, it is really the final effort of the County Association to compel the Medical Society of the County of New York to divide with the Association the work of enforcing the medical laws.

The present medical laws begin by recognizing three medical bodies: the Medical Society of the State of New York, the Homeopathic Medical Society of the State of New York, and the Eclectic Medical Society of the State of New York, and to each of these societies it gives the privilege of nominating members of the State Board of Medical Examiners. The law is very explicit in naming these three societies, which recognition undoubtedly constitutes these societies, in the eye of the law, the representatives of the medical profession. The State recognizes and controls the medical profession through this law and through these Societies, and must therefore consider these three Societies as the profession's representatives. The Board of Regents of the University of the State of New York appoints the Board of Medical Examiners from the nominees presented by these three Societies, and if either of the three Societies neglects to nominate candidates for the positions of State Medical Examiners, the Regents may appoint from members in good standing of such Society without restriction. The Regents may not appoint from the members of any other association of medical men or from any academy of medicine, but may appoint from the membership of the three Societies mentioned in the law. The section of this law providing for the penalty for violation of the law and the collection of fines gives to any incorporated medical society of the State or to any county society entitled to representation in a State society, the right to receive the fines collected as the result of complaints made by such Society. This the New York County Medical Association claims is broad enough to include it, and, acting on this assumption, made a complaint against an illegal practitioner, which led to a conviction, and then claimed the fine. The Comptroller of the City of New York refused to pay the fine over to the Association, claiming that the county society referred to in the section of the law authorizing the payment of the fines to societies making complaints was the organization having representation in one of the three State medical societies named in a preceding section of the law. The Association then requested an interpretation of the law from the Attorney-General, who gave it as his opinion that the word "society," as used in this section of the law, was broad enough to include the

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Association. The Comptroller, however, refused to be guided by this interpretation. He sought the advice of the Corporation Counsel, who requested a brief from the counsel of the Medical Society of the County of New York. Our counsel submitted a very comprehensive and exhaustive brief, as the result of which the Corporation Counsel decided that there was grave doubt that the Association was entitled, under the law, to receive fines for this purpose.

The Association then asked the Legislature to grant it the right to assist in the enforcement of the medical law, which request the Legislature, as we before stated, refused to grant. The Association then brought suit against the city to compel the payment of the fine in question, and Judge McAdam in the Supreme Court ruled that the Association was entitled to the fine. Under this decision the city had authority to pay the fine into the treasury of the county association, but neither the Comptroller nor the Corporation Counsel were satisfied with this decision, and the City of New York has appealed from the decision of Judge McAdam, which appeal will be argued before the Appellate Division of the Court in the near future, when we have every reason to hope and believe that the decision will be reversed.

According to the wording of the decision, the learned judge was evidently influenced by the fact that the Association has representation in the American Medical Association, and was of the opinion that the law would be better enforced if more than one medical body was on the lookout for violators. It does not require a legal mind to determine that neither of these points are at issue in this suit; the question to be determined—and which is simply a question of interpretation—is, Does the law, as it stands, give the Association the right, with the Society, to receive fines imposed for violations of the medical laws?

We must leave the determination of this question to the courts, but it is of interest to us, as physicians, to settle these two questions, namely, do we desire representation in the American Medical Association, and, will the work of enforcing the medical laws be better accomplished if the work is done conjointly by the Medical Society of the County of New York and the New York County Medical Association?

Let us consider these two questions. Is it desirable that the Medical Society of the State of New York should have, with the county branches, representation in the American Medical Association? The American Medical Association was organized as the result of a convention held in New York City in 1846, so that it can be truly said to have had its birth in this city. It has grown to be a National body, but is purely voluntary in its character, and not, like the Medical Society of the State of New York, an integral part of any State government. This American Association is an incorporated body, but has no fixed place of meeting. It meets yearly at a time and place agreed upon and holds meetings where scientific subjects are discussed. It fulfils an important function which no one ought ever to try to underestimate; indeed, no one ever does.

The Medical Society of the State of New York has not the migratory habit of the American Association, but meets yearly at a definite time in Albany, the State capital, during the time the State Legislature is in session. It, too, transacts a scientific business, but in addition to this it occupies the position as the State's regulator of the practice of medicine. It has done much to uplift the medical profession and protect the public health. It certainly should be represented in every National medical body, and should and would be represented in the American Medical Association were it not for the Code of Ethics of the latter body, which our State society refuses to endorse, and which even the members of the Association admit that nobody lives up to. We feel that we cannot openly subscribe to a Code which privately we must violate. When the time comes—as we hope it soon will—when the American Medical Association agrees to allow each State to regulate its own ethics and invites the Medical Society of the State of New York to send delegates to the National body, then the unhappy breach which now shuts out the representative medical body of the largest State in the Union will be closed, and the Medical Society of the State of New York will gladly send its delegates to the American Medical Association.

Will the medical laws of the State of New York be better enforced in the City of New York if the Medical Society of the County of New York and the New York County Medical Association each employ counsel, secure evidence, and receive fines?

The Legislature of the State of New York expressed its disapproval of this dual relation when it enacted the present medical laws, and repeated its disapproval during the session of 1900, when it refused to grant the Association the right to assist in the enforcement of the general medical laws of the State. The District Attorney of the County of New York, the judges before whom most of the suits for violation of these laws are tried, and the various departments of the city government whose officers are familiar with the work of preparing and trying these suits, are on record as being opposed to dividing the responsibility between the Society and the Association. For ourselves we can only say that we believe such a division will result in confusion; will increase the cost and diminish the efficiency of the work of prosecuting violators of the medical laws, which work has been carried on by the Medical Society of the County of New York for several years.

It is, perhaps, unfortunate that any organization of medical men should be burdened with the task of enforcing the medical laws, and have the privilege of receiving the fines imposed. Such an arrangement immediately gives rise to the belief in the minds of misinformed people that the prosecutions so conducted are in the nature of persecu-

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tions. When the Medical Society of the County of New York began the work of prosecuting violators, this erroneous belief was one of the chief obstacles which had to be met and overcome. Not only did the general public entertain this belief, but juries, and even judges were inclined to the same belief. Indeed, our counsel was frequently asked in court if his fee in the case depended on a conviction. It seemed impossible to believe that any society would conduct prosecutions of violators of laws unless there was a motive of personal gain back of it all. Passing years have eradicated this belief in the case of judges and juries at least, and even the general public is coming to look upon the work done by this Society in its true light. Complaints which are made to the courts, to the Health Department and to the District Attorney's office, by private individuals, of violations of the medical laws, are now referred by these judicial bodies to the counsel of our Society for investigation. Years of experience have enabled us to build up a system which renders the detection of illegal practitioners of medicine easier every year, and convictions are moderately certain. To divide the responsibility now will certainly cause confusion and interfere with the work which is being done. Even now complaint is made that the law is not properly enforced, and the complaint is, to a certain extent, just. The law is, however, being more rigidly enforced with succeeding years, and before long the time will arrive when the public will be educated to see the necessity of still more rigid enforcement, and the weak points which now exist in the law and which add to the difficulty of enforcement, will be remedied so that the public health may be properly protected.

A division of the work of enforcing the law will greatly increase the expense. The Medical Society of the County of New York employs a counsel, whose work consists in securing evidence and conducting prosecutions of illegal practitioners of medicine. For this service the Society pays a yearly salary of $1,000, and in addition to this the Society expends over $1,800 yearly in securing evidence. This expense of nearly $3,000 a year is offset, in a measure, by the fines received. In the past five years, however, not including the year 1900, this Society has spent in the work of protecting the community from incompetent practitioners of medicine over $13,000, and received in fines between $7,000 and $8,000, leaving a deficiency of over $5,000, which had been paid out of the treasury of the Society. The division of this work will necessitate a doubling of the expense, will create a rivalry in the work of securing evidence which will certainly bring discredit on both the Society and the Association. It may seem to some that a division of this work will distribute the burden of expense, but as the membership of both the Society and the Association is made up largely of the same individuals, *i.e.*, the members of the Association are, in most cases, members also of the Society, it will be seen that the expense of conducting these prosecutions for the Association will fall on the medical practitioners who are already paying for the same work in the Society.

The more familiar one becomes with the subject of medical politics in the City and State of New York, the more absurd does the peculiar condition which exists appear. We have two county and two State medical bodies, diametrically opposed in principle, yet the membership in both made up of nearly the same people. Probably very few members of the medical profession have given much thought to this subject. They will be surprised when we tell them that over 67 per cent. of the membership of the State Medical Association is made up of practitioners of medicine who are members of county societies in affiliation with the State society. The figures which will show this are taken from the published transactions of the two organizations and are authentic. In 1895 the State Medical Association had a membership of 780, 484 of these having membership in county societies. In 1899 the membership of the State Association was 595, a loss in five years of 23 per cent. Of these 595 members, 402, or over 67 per cent., had membership in county societies. Eight county societies in 1899 sent fourteen delegates to the State society who were members of the State Association, and in 1900 one of the nine members of the committee to nominate officers for the State Society was a member of the State Association. In 1899 the presidents of five county societies were members of the Association, and in the same year eighteen County societies elected twenty-six censors who were members of the Association. In twenty-six county societies officers numbering fifty-five were elected who were members of the Association. The State Medical Association has had, during its existence, seventeen presidents, eleven of whom are now living. Of these eleven, eight are members of county societies, two being permanent members of the State society and three are now officials in their respective county societies. How these gentlemen explain to themselves the inconsistency of their dual position the writer cannot say.

The Association was certainly originated by a minority of former members of the Medical Society of the State of New York, and ever since its organization has persistently endeavored to supplant the Society and its county branches, at first in the Legislature, and now in the courts. That the Association has been, and is, the enemy of the Society no one who has knowledge of the facts will attempt to deny. The members of the various county societies in affiliation with the State society who are also members of the State association or any of its local branches, are giving strength to an organization whose sole purpose has been and is the overthrow of the State society, and but for whose efforts the unpleasant relation now existing between the Medical Society of the State of New York and the American Medical Association would have been adjusted long since.

It has been necessary, in treating this subject, to cover considerable ground in order that we might

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lead up understandingly to the position we occupy to-day. Much of the space we have devoted to the history of our medical society is given to contemporary history, which is, after all, the part which should interest us the most, because it is history we are making. In our efforts to protect and perpetuate the system of protection to the public health which has grown up in this State under the guidance of the Medical Society of the State of New York and its county branches, it is necessary that we familiarize ourselves with and keep in mind always the various steps by which this system has grown lest we in our ignorance advocate some revolutionary measure which would destroy the work our predecessors gave so much time and effort to accomplish. In order to clearly portray the exact condition of affairs we have written at considerable length in this article, and if we have succeeded in demonstrating to any considerable number the necessity of exercising caution in connecting ourselves with organizations the purposes of which are to destroy the influence of the Medical Society of the State of New York and its county branches, then we will feel that the labor incident to the preparation of this paper has been amply repaid.

A few words more of the aim and purpose of our medical society and we have finished. We can sum this up in a very few words. The original Act incorporating the Medical Society of the State of New York was declared to be a "public act," and its purpose was "to regulate the practice of physic and surgery." The purpose of this State society has always been in this direction; to regulate the practice of medicine in order that the people might be protected from incompetent and dishonest practitioners of medicine. With this purpose in view our Society secured the enactment of the present medical law, which does not personally benefit any medical man or woman. This law benefits the community and this is the only just reason why such laws are ever enacted. As a class we have no right to ask the State to legislate for our especial benefit. The State has no right to pass laws which give to one class of citizens privileges which may be detrimental to the interests of some other class. The State, however, has the right—as demonstrated by the decision of the United States Supreme Court in the case of the appeal of a person who was convicted of illegally practising medicine in this State, through the efforts of our County Society—to regulate the practice of medicine, because on this regulation depends the preservation of the public health.

Political parties may interest themselves in matters of finance and tariff regulation, but no more important subject will ever be brought before the people of this country than the subject of the proper regulation of the practice of medicine and the protection of the public health. The State of New York has placed this matter in the hands of the medical profession, and in accepting this trust the Medical Society of the State of New York and its county branches aim to so conduct themselves as to merit the approbation of all good citizens.

NOTE.—In the preparation of this paper the author has made use of the following works, and desires to express his sense of obligation to their authors.

1. Medical Ethics and Medical Etiquette, published in 1883 by G. P. Putnam's Sons. An ethical symposium of papers by Drs. Alfred C. Post, William S. Ely, S. Oakley Vanderpoel, Lewis S. Pilcher, Thomas Hun, William C. Wey, John Ardronaux, D. B. St. John Roosa, Cornelius R. Agnew, Abraham Jacobi, and H. R. Hopkins, with a preface by Dr. Frederick R. Sturgis, and an appendix by Drs. William Warren Potter, of Buffalo; James Spencer, of Watertown; B. F. Sherman, of Ogdensburg; W. C. Wey, of Elmira; W. H. Bailey, of Albany; Edwin Hutchinson, of Utica; E. V. Stoddard, of Rochester; L. S. Pilcher, and J. S. Prout, of Brooklyn, and A. H. Smith, C. R. Agnew, A. L. Loomis, J. L. Little, H. B. Sands, and R. F. Weir, of New York.

2. The Status of the Medical Profession in the State of New York, by Dr. Henry G. Piffard, published in the New York Medical Journal, editions of April 14, April 28, May 5, May 26, June 2, October 6, and November 24, 1883.

3. Monographs on Education in the United States, by James Russell Parsons, Jr., secretary to the Board of Regents of the University of the State of New York.

4. The minutes of the Medical Society of the County of New York.

5. The Transactions of the Medical Society of the State of New York.

6. The Transactions of the New York State Medical Association.

7. Briefs submitted by Hill, Sturcke and Andrews, Counsel for the Medical Society of the State of New York, and Robert C. Taylor, former Counsel of the Medical Society of the County of New York.

PNEUMONIA: ITS ETIOLOGY AND TREATMENT.

BY D. L. BURNETT, M. D.,

OF SOUTH ROYALTON, VT.

How often have we seen the look of dread and despair on the faces of friends and relatives as we have pronounced the sentence of pneumonia in the sick room. It is stated that nine-tenths of all deaths after the seventy-fifth year are from acute pneumonia (Loomis). It is a disease that all fear, and, therefore, it behooves us to be especially cautious in making our diagnosis too pointed to the patient, unless it seems imperatively necessary, as oftentimes the element of fear as to the outcome of the illness is a prognostic factor of considerable importance. It is much better to remind the attendants that the less often the word pneumonia is spoken in the hearing of the sick one the better will be his chance of ultimate recovery. This fact is true of all severe types of acute diseases, but the condition of the nervous system is such that it is doubly true in pneumonia.

There is something in the sudden onslaught of pneumonia, in its reducing of the strong, healthy, never-sick-man to the weak, despairing invalid within the limits of a short half-hour, that is enough to make the stoutest heart quail. But in no disease is the physician better repaid for close attention and intelligent effort than in the one under consideration. I do not believe that, as yet, treatment offers much in the way of shortening the length of the disease, though in this opinion I may be decidedly with the minority, but I do most firmly believe that the outcome of pneumonia in a large class of cases is most certainly and emphatically dependent on the treatment received. It is true that there are cases which will recover with no treatment, and also cases which no physician, however versatile or learned, can save: but there certainly is a large middle class in which the progno-

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sis depends on the physician, attendants and environments.

The consensus of opinion is that lobar pneumonia is caused by a germ, or, speaking more strictly, by two germs, viz., the pneumococcus of Friedländer and the diplococcus of Fraenkel, these cocci not being bacteriologically identical. Moreover, they are accompanied by pus germs, and toxins are rapidly developed, so that in its entity pneumonia is probably a mixed infection. The diplococcus of Fraenkel is found, however, in seventy-five per cent. of cases. It is thought that the pneumococcus of Friedländer is a less virulent germ, but able at all times to produce pneumonia. The diplococcus of Fraenkel, therefore, is the most usual micro-organism found in the malady under consideration. It has been found in the blood, spleen, kidneys and endocardial vegetations of a person sick with pneumonia, and it is also often found in the saliva of healthy persons. In sharp contradistinction to the bacillus of Eberth, which causes typhoid fever and which retains its vitality outside of the body under favorable conditions for many months, the diplococcus is virulent for only a few days when outside the body.

Bronchopneumonia, otherwise catarrhal or lobular pneumonia, is not thought to be caused by the diplococcus of Fraenkel, but may be of a specific nature, as, for example, tuberculous or syphilitic bronchopneumonia. It is often a terminal affection following bronchitis, or, as a complication or sequelæ of the diseases peculiar to childhood or at the other extreme of life, it is extremely apt to occur during or following such severely-depressing diseases as diabetes, nephritis, influenza, etc. Staphylococcus and streptococcus infection are etiological factors of importance. Inhalation, aspiration, and deglutition bronchopneumonias are due, as the names imply, to foreign bodies being carried into the lungs or bronchial tubes and causing the bronchopneumonia by their mechanical or septic action. I do not propose to speak of embolic or chronic interstitial pneumonia.

Treatment.—As in many other diseases the principle of treatment of pneumonia has undergone a complete reversal during the last half century. Then "lung fever," as it was called, was treated by venesection and by *hydrargyrum chloridum mite* in substantial doses. Depletion was the keynote. If the patient had pleurisy—bleed; for dyspnea—bleed; if the heart was failing—bleed; if the crisis was late—bleed, and especially if any complication arose, bleed *ad infinitum.* Now, I doubt whether there are six physicians present who have bled a patient in pneumonia during the last fifteen years. There are instances where bleeding is a benefit if it can be done at the proper stage of the disease, but in most cases the same results may be brought about by measures that do not tend to reduce the strength of the patient. An initial dose of a mild cathartic such as cascara sagrada, is indicated in ninety per cent. of the cases. This, I think, is nearly the first action to be taken in the line of treatment, as it flushes the bowels of all collections of fecal matter, excites the glandular system of the alimentary tract and puts the economy in the best possible condition for the struggle to follow. This should be attended to before any anodynes are used. After the bowels are thoroughly unloaded, put the patient well under opium in some of its various forms and hold him under it for at least two or three days, until the sudden shock to the nervous system is somewhat expended; with due caution this drug may be used in the aged and in young children. In my opinion, the use of internal antipyretics is very seldom required. I have been able to control any excessive fever, as a rule, by cold spongings, and it has seemed with less depression to the patient. It might be in some cases with a persistently high temperature, that cold-water spongings combined with small doses of coal-tar preparations would be of advantage. Leave a clinical thermometer with the family or nurse, if they are intelligent enough to be able to use it, and with the proper instructions the cold spongings may be safely left with them. Allow the patient plenty of liquid drinks, both for his comfort and for their liquefying effect on the products of inflammation.

The chief organ to watch in the treatment of pneumonia is the heart, for if it can be kept up to its work until the obstruction due to inflammatory products in the lungs and the depressing effects of the toxins on the cardiac nerve centers have had an opportunity to subside, the patient has an excellent chance to recover. A very serviceable combination is nitroglycerin, sulphate of strychnine, spirits of camphor, aromatic spirits of ammonia, and spirits vini gallici, to which may be added an opiate if needed. The glonoin has a multiple action as a cardiac and respiratory stimulant and as a dilator of the arterial system. The strychnine may be increased in dose, if needed, until very decided physiological effects are produced, provided the patient can be seen frequently. I am convinced that this drug is often used in this disease with too much timidity. It is a drug that gives us sufficient warning of danger to prevent serious results, and I am sure that I have seen some almost hopeless cases, especially in aged people, recover after the very free use of strychnine. As the disease progresses the amount of the heart and respiratory tonic and stimulant treatment will probably need to be increased. The alcoholics may be well taken in milk, cold tea or coffee, and usually better sipped in small quantities at a time. I am very particular in regard to one point, and that is not to allow the patient to rise on his elbow either while taking nourishment or medicine or while coughing. It puts just so much more work on the heart. Use a feeding-cup for giving liquids, and make the patient expectorate on old cloths which may be burned immediately. The use of expectorants, in the ordinary meaning of the term, is not to be advocated as a routine measure in the treatment of acute stages in adults. Water or liquids will render the products of inflammation less gelatinous,

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and cardiac and respiratory stimulants and tonics to assist in expelling them are far preferable to the syrupy cough mixtures so frequently used. If the cough is more than is needed for clearing the throat and upper bronchial tubes, if it is a nerve-cough caused by irritation of the bronchial nerve-endings, it may be well controlled by some preparation of opium and camphor, like Tully's powder or by inhalations of steam and turpentine, or creosote. Usually with this irritable cough there is not much secretion, which fact does away with the theoretical objection that the opium will dry up the secretion. Insomnia is frequently an alarming symptom and, if possible, should be met without a direct recourse to opium. If due to either pain, cough or dyspnea, it should be treated in some of the ways already indicated; if due to the exhausted condition of the patient, by increased stimulation, food often repeated, and sponge-bathing with hot alcohol, ammonia and water, together with dry hot flannel rubbings. Hyoscyamine, grain 1/100, will often have the desired effect, especially if there be a tendency to delirium. Delirium, of itself, in pneumonia, will often furnish the physician with something to keep him busy. The same hot spongings and rubbings, and increased stimulation will be of use as in the insomnia. In case of intense delirium look out for complications; cool or cold applications to the head are often of benefit. It is usually essentially necessary that the attendant does not try to converse with the patient in this condition. In regard to the local means to be employed there exists a wide diversity of opinion from the ideas of former years. The tendency at the present time seems to be to do away with all forms of local irritation in the first stages of pneumonia, and they are used only sparingly in those cases of delayed resolution in the form of numerous small fly-blisters or tincture of iodine or similar remedies.

Neither do local applications of poultices seem to be as much in favor as formerly. I am free to confess that in families in which the physician can be sure that the poultices will be carefully attended to before getting cold and with as little exposure and irritation to the patient as possible, and are made of as light material as can be used, they are a means of great comfort in the first stages and when there are sharp pleuritic pains or a harsh annoying cough. When they are not properly attended to, we only too often see the abuse rather than the use of poultices. A cotton jacket is very convenient for a covering to the chest; it may be easily made from old, thoroughly quilted bed-covering, cut large enough to envelop the chest front and back, notched under the arms, caught together over the shoulders and fastened with tapes and buckles on the sides. The material should be thoroughly aired and dried before a good fire before being used. This serves the main purpose of keeping the chest in as equable a temperature as possible.

The question of nourishment throughout the course of the disease is an important one. Lime-water and milk is an old and valuable means of nourishment. In fact almost any easily-digested food is usually allowable if the patient desires it. One point in this connection is as true in this disease as in others. Never ask the patients if they wish such and such articles. Simply carry the prepared food to them as if it was a matter of course at the time. Usually in this way more food is taken than would be in the other. In pneumonia, the food should be given in small quantities and frequently. During convalescence the keynote of treatment is tonics, especially iron and strychnine, with some of the vegetable bitters. If resolution is delayed, the iodides are of use, especially that of ammonium. Cod-liver oil also is of much value at this time.

ON THE PROGNOSIS OF HYSTERIA: A CONTRIBUTION TO THE QUESTION OF FATAL HYSTERIA.*

By JOSEPH FRAENKEL, M.D.,
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MUTATIS MUTANDIS, the phrase in which the ancients clothed their ignorance of the anatomy and functions of the brain, still applies to hysteria; *actiologia obscura, pathologia obscurior, anatomia obscurissima.* In obscurity theories are easily fashioned, and small wonder that there are almost as many theories about hysteria as there are human minds busying themselves with the question. No theory has, however, so far been accepted without contradiction, and not one has given satisfactory explanation of all the hysterical phenomena. Considering this obscurity and the theoretical dissensions, the unanimity found in the question of prognosis is astonishing.

The feeling of relief experienced when the functional nature of a case in question is established, after long and arduous differential diagnostic reflections, is well known. This feeling arises not only from the consciousness of having completed one's task, but also from the conviction that in functional disorders the outcome is usually favorable. This alone would indicate how generally accepted the belief is that the prognosis of functional diseases in general, and of hysteria in particular does not call for much study and deliberation. A more thorough examination of the literature of the question lends further emphasis to this belief. One is tempted to say that the general acceptance of such a belief is almost self-evident when treatises like the Twentieth Century Practice and the Traité de Médicine in their chapters on hysteria do not mention the prognosis at all. In other current text-books and manuals, the extreme brevity with which the question of prognosis is settled is somewhat inconsistent with the minuteness with which symptomatology, etiology, therapeutics, etc., are discussed, particularly as the

*Read by Title before The American Neurological Association, 1900.

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question of prognosis is an eminently practical one. Here and there suggestions are thrown out that the prognosis of hysteria may occasionally become more serious, and that a fatal issue may terminate a hysterical picture.

During a period of two years I saw three undeniable clinical pictures of hysteria end fatally. Considering the frequency of hysteria, three deaths in two years do not necessarily conflict with the popular opinion already noted; nevertheless these experiences were striking enough to induce me to look more deeply into the question of the prognosis of hysteria.

Concerning this question, authorities at present are divided into two groups. For the majority, hysteria is a disease of good prognosis, fatal issue being rare. In fatal cases death is believed to be due to the fact that the respiratory musculature is involved in the hysterical spasm (spasm or paralysis of the glottis), or is the result of inanition, following long-standing hysterical anorexia, or uncontrollable hysterical vomiting, or, finally, is mediated through direct or indirect forms of suicide.

A smaller number of observers believe that death is under no conditions the legitimate outcome of an uncomplicated genuine hysteria; on the contrary, that such an issue makes the diagnosis hysteria impossible.

From what standpoint, therefore, shall one consider the question of prognosis in a given case of hysteria? In most other diseases we have more or less reliable fundamental principles, and the question of prognosis is answered in an accepted methodical fashion. The prognosis is then chiefly dependent upon the intensity and extensity of the underlying anatomical process. Trustworthy information is furthermore to be had from the known course of most diseases. To a certain extent one may rely upon the positive or probable efficacy of the customary therapeutic procedures. Finally, the individual equation of the patient, the explicable or inexplicable individual structure and manner of the reaction of the tissues, are of some value in this respect.

Concerning hysteria, we are still very far from a plausible idea of a possible anatomical foundation, and are therefore unable to construct the prognosis upon the only safe basis, *i. e.*, that furnished by pathological anatomy. But, in many other respects also, we are less amply provided with reliable and unequivocal facts in hysteria than in other diseases.

It has probably occurred in every one's experience to have seen cases of severe hysteria, with considerable hereditary taint, recover under scarcely any therapy, and, on the other hand, cases of apparently mild hysteria, without traceable hereditary taint, succumb to incurable illness in spite of all treatment. Frequently hysterical symptom-groups have defied all imaginable therapeutic procedures for a long time, and then suddenly have yielded to a seemingly unimportant and inexplicable maneuver.

Cases occur, although rarely, which to all appearances seem to warrant an unconditionally favorable prognosis, and which take a sudden turn for the worse, or even end fatally, much to one's surprise and dissatisfaction, without leaving tangible indication for future guidance.

Naturally the inquiry is forced upon one, whether it is entirely impossible to foresee these accidents at least approximately, and, upon what guiding principle the prediction of the same is to be built. An answer seems to me extremely unsatisfactory, as the facts at present at our command do not permit the formation of a clearly-defined outline. An experienced observer will frequently guess the right course and future development of a given case; but even he will sometimes go amiss, and much more so will the less experienced.

For the sake of reaching a better conclusion, it seems advisable to divide the foregoing general question into special ones, and to find answers to the following: (1) Is hysteria curable at all? (2) Upon what conditions does the curability or incurability depend? (3) Is hysteria ever fatal?

Hysteria is just as curable as syphilis or tuberculosis are. It is frequently observed that the evidences of activity of any of these diseases abate, either temporarily or permanently. Their previous existence can usually be inferred from the so-called stigmata, general or local signs congenitally imprinted upon the patient, or left on his body by the active stage of the disease, in form of phthisical habitus, syphilitic scars or hysterical stigmata. Thus is prepared a soil upon which, and caused by discoverable or undiscoverable additional etiological factors, the same or other hysterical symptoms may spring up again at any time, although not necessarily so. Some hysterical patients after recovering from one attack of hysteria may remain exempt from hysterical phenomena the rest of their lives.

To determine the conditions upon which the curability of hysteria depends, we naturally, at the present anatomical era of medicine, turn to the anatomy for aid. In view of the fact that we are still awaiting the anatomical solution of hysteria, and that at present no generally accepted anatomical basis is known, we cannot expect reliable support from this point of view.

In ancient times the uterus was held responsible for hysteria; in the middle ages the devils; and in more modern times, with apparently equal justification, the brain or the sympathetic nervous system.

For purely clinical reasons, and for reasons the analysis of which would lead us to-day too far into the sphere of splanchnic physio- and pathomechanics, the last view seems to me to be the most probable. Whichever it is, and wherever the root of the disease, the superstition that hysteria is merely a malady in the sense of Moliére is at the present time abandoned by earnest thinkers. And if this is so, then, in spite of the unknown anatomy, hysteria must become subordinate to the

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laws of general pathology, which teach that the tissues are subject to more or less reparable or entirely irreparable changes, and thereby lead to various disturbances of function.

Evidently, then, the clinical symptoms resulting from these disturbances are accordingly either fluctuating and evanescent, or stable and permanent. Therefore, whenever the abatement or fluctuation of the main symptoms is in accord with the first acceptation, *i. e.*, a reparable damage of structure, the prognosis is a better one than when in the midst of the fluctuation of symptoms a stationary phenomenon indicates a deeper structural change.

At times this very fact will be a guide to the fountainhead of all hysterical weal and woe upon which a causal and more direct therapy can be built that may change the prognosis for the better.

One could proceed with greater safety if, in the future, more attention were paid to the purely clinical side of hysteria, at least so long as we are waiting for an anatomical salvation. Clinically regarded, everything concerning hysteria is scattered about pell-mell, and individual clinical groupings receive only slight appreciation. There certainly is a clinical, perhaps also an anatomical, difference between a purely mental and a purely somatic hysteria. A hysterical monoplegia and a hysterical pseudoperitonitis are assuredly not of equal significance. An attempt at an analysis of the symptomatological kaleidoscope, hysteria, might in many respects be instructive. In the literature very little is to be found prepared for a nosological classification of hysteria.

Conforming to the teachings of La Salpétrière, Tourette distinguishes a paroxysmal or pathological hysteria from an interparoxysmal or physiological one. The intervals between the paroxysms are of different duration, and each paroxysm ought naturally to exhaust itself. Therefore, if sufficient care is exercised, dangerous accidents during an attack can almost always be prevented; and when proper therapeutics are applied during the intervals, these cases generally promise a fairly good prognosis.

From the etiological point of view, so-called traumatic hysterias can be sharply separated from all the other forms. The prognosis of the first named could fill a considerable pamphlet. The fact that these forms are often copied by simulation, to a degree amounting to positive disguise, makes the question the more difficult. Generally, traumatic forms of hysteria, particularly in men, give a *quo ad valetudinem* unfavorable prognosis. External accidents, tardy application of the proper therapeutics, or their frustation through lengthy legal proceedings, allow the malady to take root too deeply and future eradication becomes at times impossible.

Frequently a distinction is made between monosymptomatic and polysymptomatic forms of hysteria. According to my experience the monosymptomatic cases are generally more obstinate than the polysymptomatic ones, although at times the contrary may also be true. The first would harmonize with the theoretical acceptation that stationary symptoms seem in all probability, to indicate severer anatomical lesions.

From a general clinical point of view, hysteria could be separated into three principal groups, which, however, like all things in Nature, are not marked by fixed boundary lines and can show many interchanges and mutual displacements. As belonging to these groups can be enumerated (1) predominantly mental forms, hysterical psychoses with more or less pronounced somatic symptoms; (2) predominantly cerebrospinal forms; symptoms of this group are mainly composed of phenomena of irritation or paralysis of motor or sensory apparatuses supplied by the cerebrospinal system (monoplegias, hemiplegias, paraplegias, tremors, contractures, ocular symptoms, etc.); (3) predominantly splanchnic forms; the symptoms of this group are composed mainly of phenomena of irritation or paralysis of motor or sensory apparatuses supplied by the splanchnic or sympathetic nervous system (vomiting, constipation, diarrheas, meteorismus, tympanitis, phantom tumors, ulcerations, edemas, etc.).

Around all these three groups is wound the symptom-complex of hysterical seizures—*grand ou petit mal hystérique*—as a band of unification. The ultimate analogous nature of all these groups is shown by the fact that the symptoms of every group are found occasionally intermixed or supplanting each other, permanently or temporarily. The main picture, however, is chiefly composed of the symptoms of one of these groups. The last group, the predominantly splanchnic form, is at present not well known. Thus far but few observers have espoused the cause of vegetative neurology, and this branch seems to me best fitted to throw eventually more light upon the question of hysteria.

Finally, in hysteria, as in other diseases, one must separate the genuine forms from the symptomatic ones. Hysteriform symptom groups and individual hysterical symptoms are known to be frequent accompaniments of any imaginable organic disorder. The hysterical phenomena and the underlying disease stand to each other in a twofold relationship; the hysterical symptoms are either an accidental addition to the clinical evidences of the organic disease, or they are essential clinical evidences of the organic disease conditioned by the same. This last causal relationship between organic disorder and hysteriform symptoms is not at all times easily demonstrable. Particularly are toxemias, initial forms of local or general cerebrospinal or splanchnic arteriorsclerosis, frequently expressed by hysteroneurasthenic symptoms.

The prognosis of the first two groups, *i. e.*, the predominantly psychical and the predominantly cerebrospinal forms, is, according to my experience, generally more favorable than the prognosis of the third group, the predominantly splanchnic form, which seems the most obstinate and occa-

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sionally even dangerous. In the last mentioned symptomatic group the prognosis depends naturally upon the fundamental disease.

I. Mayer and Wunderlich first called attention to the question of fatal hysteria by reporting cases which they called acute fatal hysteria. After severe critical examination these cases cannot be left in the rubric of hysteria. The cases of Mayer resemble cases of delirium acutum, and in those of Wunderlich short hysterical prodromata were soon followed by a fatal issue under enormous hyperpyrexia. In addition to the papers just mentioned I was able to find only ten studies on the question of fatal hysteria. Two are of a more general character.

Fournier[1] calls attention to the fact that in spite of the generally accepted opinion of the benign nature of hysteria, fatal cases are by no means rare. In such cases death ensues, as already stated, from spasm of the respiratory musculature. Long-continued hysterical anorexia or hysterical vomiting have not uncommonly the same result. Fournier furthermore thinks that hysterical angina pectoris may sometimes be fatal, and that carelessly performed hypnotic séances can also result fatally. Fournier also includes in this category death which has been observed occasionally to follow laparotomies, particularly hysterectomies. Maguire[2] in a short address before the London Medical Society, the original of which I could not look up, refers simply to death resulting from so-called functional disease, explaining it by the supposition of a state of exhaustion of the gray matter. Two further papers by Philippi[3] and Frideberg[4] are of little value for the question at issue, as in both cases death did not result from hysteria proper, but from complications arising after the patients had swallowed needles. The remaining six papers contain reports of cases of hysteria with fatal issue.

Robert[5] reports a case the clinical history of which is not sufficiently complete and convincing. Moreover, the autopsy of the case is missing, and therefore a final judgment is not permissible. The same holds good for the cases of Walsche[6] and Given[7]. Given's case resembles greatly a case of acute encephalitis. L. C. Allen[8] describes a case of tonsillitis (Quincy) and typhoid fever in which convulsions and somnolence developed. These the author regards as hysterical, without sufficient proof, however. A subcutaneous injection of a larger dose of apomorphine, was soon followed by a fatal issue, and the author himself is in doubt as to the cause of death; whether it was the injection or a spasm of the glottis. An autopsy was not made.

Stretton[9] calls attention to the possibility of a fatal termination of hysteria and reports two cases. The first is a case of stupor with a very meager clinical history and negative autopsy findings. The second case has likewise a scant history and no autopsy report. The author thinks that the usual manner of death in hysteria is coma. Finally, the two cases of Fairbrother[10] give no fuller information about the question of fatal hysteria. The first case seems to be a mixture of pneumonia (?) and tetany (?) and has no autopsy report. The second case is not clearer and has likewise no anatomical explanation.

As mentioned in the introduction, I have in three instances seen death result from hysteriform conditions. These instances stated as briefly as possible are the following:

Case I.—A. H., forty-two years of age, single, American, was brought from the Mt. Sinai Hospital to the Montefiore Home, January, 1897, suffering from severe hysteria. Her family history was negative and her present disease dated back nine months. There was no attributable cause for the onset of the present symptoms. At the time of admission to the Montefiore Home the chief symptoms were emaciation, anorexia, vomiting, and obstinate constipation. Pulse and temperature were subnormal. Repeated objective examinations at both institutions revealed nothing suggestive of organic disturbance. While at the Montefiore Home no considerable change in the picture took place. The patient took only a small amount of nourishment, and after two weeks she died suddenly, apparently of exhaustion. The autopsy revealed the following: Small hemorrhagic erosions in stomach, scattered spots of ulceration in small and large intestine. These ulcerations were dark and parchment-like, very similar in appearance to trophic ulcerations of the skin. Two small intramural fibromata of the uterus were found. The brain and spinal cord showed no changes to the naked eye, excepting that the meninges were unusually dry. The result of the microscopic examination is not trustworthy, because the patient was embalmed prior to the autopsical examination, and on this account the changes found, although very slight, cannot be considered genuine, and the possibility of their being artifacts must be born in mind. The sympathetic nervous system was not examined.

Case II.—M. W., forty-three years of age, married, American, is the descendant of a fairly healthy family. Without any assignable cause, the present disease began eight months ago with pain in the lower extremities and difficulty of locomotion. She soon became very much worse, so that she was unable to be up and about without assistance. At the time of the examination she complained of being very nervous, easily excited and fatigued, and further of frequent and intense pain migrating all over the body, particularly on the left side. She further suffered much from moody functions of the circulatory and alimentary tracts. Sensation of heat and cold, profuse perspiration, and excessive dryness of the skin alternated rapidly and were very distressing. Voraciousness and anorexia, belching and vomiting, constipation and diarrhea were unaccountable in their appearance. Often severe palpitation of the heart awakened the patient at night. Vesical and rectal tenesmus were occasional symptoms. The patient was free

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from signs of degeneracy, of fair build, and well nourished. In the left breast a small tumor was found, as large as a hazelnut. This tumor was adherent to the skin covering it, and led to a retraction of the mammilla. The tumor was believed not to have increased in size during the last four years, and, according to respected surgical opinion, its nature was believed to be carcinomatous. With the exception of a coated tongue, occasional irregular heart action and some scattered analgesic spots on the body, no further objective findings could be made out. After three weeks of unsuccessful treatment, the patient passed into other hands, and died suddenly four weeks later under symptoms of acute paralysis of the intestines. No autopsy was made.

Case III.—The detailed account of this case is to be found elsewhere*. I shall only mention in this connection that the patient came of a healthy family and had been in good health up to the time she came under my treatment, one year prior to her death. During this time she was treated for undeniable hysterical symptoms, without success, and died suddenly within thirty-six hours with symptoms of pseudoileus. The autopsy showed a cold abscess, a little larger than a pin's head, of the left fourth rib which infiltrated the left-sided thoracic sympathetic chain.

From the foregoing, the inference is permissible that in hysteria death is due to: (1) Spasm or paralysis of any part of the respiratory mechanism. Whether this is simply the result of the temporal prolongation of the spasm, and the thereupon dependent secondary paralysis of the central mechanism of these functions—thus by timely interference avoidable—or analagous to the last mentioned case, the result of irremovable lesion of the sympathetic innervation, is thus far not determinable. (2) To inanition resulting from prolonged hysterical anorexia or uncontrollable vomiting. Here, also, it cannot be determined whether death is the result simply of starvation or the result of a more deeply conditioned disturbance of the mechanism of resorption. (3) To paralysis of the circulatory or alimentary apparatus in the last case under the picture of a pseudoperitonitis, or a pseudoileus as in the second and third of the above reported cases.

The third case cannot in the light of the present teaching be rubricated absolutely as hysteria. According to Nothnagel and others only such cases and symptoms should be called hysterical in which thorough clinical and anatomical investigation fail to reveal any trace of organic disorder.

Whether further experiences in this subject will not prove finally that most of the cases of so-called fatal hysteria are the result of anatomical occurences, similar to the one described, the future will show. In that case most of them will then have to be looked upon as secondary or symptomatic forms of hysteria, and how much there will be left then as genuine hysteria "sensu strictiori" is an open question. For the present, the possibility of a fatal issue in genuine uncomplicated hysteria is still very doubtful.

However, it seems reasonable to state that in hysteria, death when it occurs, is due to irritation or paralysis of splanchnic or vegetative functions, and that a case of hysteria with more or less constant and prevailing splanchnic or vegetative symptoms is from a prognostic standpoint both *quo ad valetudinem et vitam* to be adjudged very cautiously.

*Med. Record, June 16, 1900.

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MEDICAL PROGRESS.

Inguinal Hernia in the Female.—W. B. COLEY (*Annals of Surgery*, Dec., 1900) believes in the removal of the sac in all cases and denies the desirability of transplanting the round ligament. The following method was employed in 123 cases recorded; the incision is made one-half to three-quarters of an inch above and parallel to Poupart's ligament, and should extend nearly to the level of the anterior superior spine; the aponeurosis of the external oblique is split up well over the internal ring, and dissected back to the edge of the rectus on the inner side, and on the outer, sufficiently far to expose the thick fold of Poupart's ligament; if the sac is sought for high up just below the edge of of the internal oblique muscle, there will be no difficulty in finding it; after the sac has been dissected from the round ligament and thoroughly freed well within the external ring, it is transfixed and tied off with catgut; the wound is then closed in three layers as in Bassini's method, a medium-sized kangaroo tendon being used for all buried sutures, and catgut for the skin; in the deep layer, interrupted sutures, usually four or five in number, are introduced from above downward, bringing the internal oblique and transversalis muscle over to Poupart's ligament; the round ligament is allowed to drop back into the lower angle of the wound, and as it approaches the pubic bone it is so small that it requires much less space than the cord in the male; the aponeurosis is now sutured with a continuous suture of kangaroo tendon, about the size of No. 1 catgut; the skin is closed without drainage, and the wound dressed with iodoform gauze and moist bi-

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chloride gauze, 1-5000; the patients are kept in bed from ten to fourteen days, when they are allowed to go about, a spica bandage being kept on for two weeks longer, at the end of which time support of any kind is discontinued. Not one relapse occurred in all the cases so treated.

Paroxysmal Delirium and Auto-intoxication.—(1) The symptoms manifested by auto-intoxication are so varied that the condition is frequently not recognized, or when the nervous symptoms are very pronounced the case may be diagnosed as typhoid, malaria or meningitis. W. C. HOLLOPETER (*Internat. Med. Mag.*, Dec., 1900) analyses several cases recently observed which manifested peculiar delirious conditions due to auto-intoxication. One was a boy, four and a half years old, taken acutely ill with fever and tendency to nausea. The bowels were regular; temperature 104.5° F.; he was very restless. In the evening the child became violently delirious, remained so for several hours, and finally fell asleep exhausted toward morning. This was repeated for three or four evenings. The Widal test was negative. The urine showed enormous quantities of indican and was lithemic. After several high enemata a large quantity of foul-smelling undigested food was passed and the symptoms disappeared rapidly. Two other cases very similar in nature are given to illustrate what a decided influence upon the cerebral condition intestinal intoxication may have.

Wounds of the Heart.—L. L. HILL (*Med. Rec.*, Dec. 15, 1900) states that wounds of the heart may be penetrating or non-penetrating, injuring the cardiac wall or opening a cavity; the chief dangers from the former are shock and injury to a coronary artery; ninety per cent. are penetrating; the right ventricle is most frequently injured and the left auricle is least so; auricular wounds are more fatal than ventricular ones, and injuries to the apex are less dangerous than either; a needle puncture will rarely cause hemorrhage from a ventricle, but excessive bleeding is likely to follow a like injury to an auricle; a wound inflicted during diastole is less dangerous than a similar injury during systole; perpendicular wounds are more fatal than diagonal ones, and those of the right heart bleed more profusely than those of the left. The presence of the foreign body in the heart, the size of the wound, the number of the wounds, the connecting of cavities, the attending syncope, the involvement of Kronecker's coördination center are important factors in determining the outcome; pericarditis, myocarditis, endocarditis, and empyema are frequent secondary complications. The treatment consists in exposing the wound as far as practicable and closing the wound of the myocardium with interrupted sutures which should be placed close together and not involve the endocardium; silk is preferable to any other material; the needle should be the same as that used in suturing the intestines, and the sutures should be passed and tied during diastole; the first suture may be used to steady the heart and facilitate the passage of the others; in sewing the pericardium either interrupted or continuous sutures may be used. It is well to remember that when the wound heals there is a possibility of cicatricial stretching and subsequent rupture of the heart cicatrix.

Flechsig Treatment for Epilepsy.—The unfavorable reports on Flechsig's method for the treatment of epilepsy, namely, the so-called "Opium-bromine" cure, have prompted E. MEYER and C. WICKEL (*Berliner Clin. Woch.*, No. 48, 1900) to give to Ziehen's modification of this treatment a thorough trial in the psychiatric clinic at Tübingen. The particulars of the modified treatment are herewith given and it will be seen that they consist chiefly of the gradual increase of the opium to the rather low maximum of 15 grains of the powdered drug three times a day, besides careful regulation of the diet and methodical cold-water treatment. The initial opium dose is about 1 grain of the powder three times daily. On the third day each dose is increased by one-fifth grain; on the fifth day the increase is another one-fifth grain for each dose and so on for every second day. When the fifty-first day has arrived, the patient is taking about 5 grains of the powder three times daily. This is only given on that one day. On the succeeding fifty-second day 90 grains of mixed bromides are given to the patient to be increased every second day by 15 grains until 135 grains a day are reached at which point it remains for some time. From the beginning of the treatment, half an ounce of dilute hydrochloric acid (grams 3.400) is administered after each meal. Alcohol, coffee, tea, bouillon, bologna, all spices, pepper, mustard and vinegar are absolutely withheld, while even salt is reduced to a minimum. Meat is given but sparingly, the chief nourishment consisting of meal soups, eggs, rice, and the various pastry products together with a little fruit and fresh vegetables. From the first day of the treatment, the patient is to take cool baths before the evening meal—each bath to last about ten minutes and to be of a temperature of 86° F. These baths are gradually to be reduced to one minute at 70° F. After this temperature is attained, the baths are again increased to three or four minutes each and later to six minutes. They are then continued until the bromine treatment has begun when for the first week of which they are omitted. After this they are again begun exactly as in the initial period of treatment. The patients are to be weighed every third day and pulse, temperature and respiration carefully taken. The bowels are to be regulated, if necessary, by enemeta and massage and never by means of cathartics by mouth. Cases are then cited by the authors showing their success by these means—success which was never attained by bromine alone. The attacks were lessened both as to frequency and severity and the corporeal as well as the psychic condition of the patients markedly improved.

Acromegaly and Giantism.—J. HALL PLEASANTS (*Maryland Med. Jour.*, Dec., 1900) reports a

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case of acromegaly and giantism in a negro between twenty-five and thirty-five years of age, in whom "almost none of the symptoms of acromegaly have been present" and who is only 6 feet 2 inches tall. The history, given in detail, shows that the man was a high-grade imbecile, that his hands were very large but not spade-like in shape, and that his feet were enormously enlarged, measuring 12½ inches in length and 12¾ inches in circumference around the ball of the foot. The toes were very long, the great toe being enormous. The patient has always gone barefoot because he could never get shoes sufficiently large. Radiographs showed that in the hands and feet there was a general enlargement of all the bones, both in length and circumference, involving the shafts and epiphyses. On the terminal phalanges of both the hands and feet there was a marked epiphyseal "turfing" of the bone as in acromegaly. The bony framework of the upper part of the chest was massive, the chest being somewhat sunken. There was a marked kyphosis of the spine in the cervical region and also a slight degree of scoliosis. The clavicles were not enlarged. The spinous processes of the cervical vertebræ were thickened and enlarged. The bones of the face were thickened and enlarged. The thyroid gland was apparently atrophied. The muscles were everywhere flabby. There was an enlargement of the penis. The deep reflexes were somewhat exaggerated. There were no subjective symptoms. The writer discusses the two theories on the relationship of acromegaly and giantism and thinks that the examination of this patient suggests an association of many recognized features of both acromegaly and a certain type of giantism. A complete table of measurements of this patient is given.

Three Varieties of Membranous Angina.—It is a well-established fact that the diphtheria bacillus is not the only micro-organism capable of producing a pseudomembranous inflammation. The condition of the membranes in these varieties of pseudomembranous inflammations is not dissimilar to that produced by the Klebs-Loeffler bacillus. It may be impossible to distinguish the constitutional disturbance from that usually accompanying a severe case of diphtheria. The micro-organisms other than the Klebs-Loeffler bacillus capable of producing such an inflammation are the streptococcus pyogenes, the micrococcus of sputum septicemia, and oidium albicans. A Klebs-Loeffler infection is known to vary a great deal in its clinical manifestations, and these other organisms can also produce a clinical picture varying from a mild sore throat to a fatal disease. WILLIAM T. BISSELL (*Buffalo Med. Jour.*, Dec., 1900) says that the oidium albicans has never produced a membranous condition of the tonsils, in the experience of the Buffalo Bureau of Bacteriology, which has resulted fatally, but that streptococcus and sputum septicemic infections have been frequently noted and followed in some cases by death. He gives in detail the history of a severe streptococcus tonsillar infection, and also a brief history of a case supposed to be a case of tonsillar diphtheria, but which examinations of the cultures and membrane showed to be an inflammation caused by the micrococcus of sputum septicemia. The latter patient died although antitoxin had been administered at the outset of the disease. The writer arrives at the following conclusions:

(1) The streptococcus pyogenes and the micrococcus of sputum septicemia can produce membranous anginas, accompanied by physical disturbances sufficient to result in death. (2) The oidium albicans produces pseudomembranous exudates easily mistaken for a Klebs-Loeffler inflammation. (3) The only positive means of determining a Klebs-Loeffler infection is by the microscope. (4) From the sanitary standpoint, as regards quarantine, anginas due to the streptococcus pyogenes, micrococcus of sputum septicemia and the oidium albicans, require little consideration.

Laryngeal Tuberculosis.—The suffering which is caused by this most distressing lesion is probably equalled by few other diseased conditions, and so little success has been had in treating it that new ideas are always welcome in the hope that some remedy may be found to stop the ravages of this destructive process. R. D. COHN (*Med. Rec.*, Dec. 22, 1900) says that the disease begins as an infiltration in the deeper layers of the submucosa instead of on the surface as some believe, and it gradually works toward the surface until granulations form over it and these subsequently break down into ulcers. In the primary stages of infiltration and granulation phonation may be interfered with by the swelling, which disappears later when ulceration begins, and a return of voice, though appearing as an improvement, really means an increase in the extent of the process. In the treatment of the disease it should be divided into three stages. In the first stage only localized areas of infiltration or ulceration occur in an otherwise healthy larynx. The only rational means of treating the infiltrations is by the use of the curette after a ten- to twenty-per-cent. cocaine spray has been thoroughly employed. Applications to the mucous membrane are of no avail, for the process is more deeply seated. Insufflations of iodoform or aristol are then made and a second curettage in seven to fourteen days. Ulcerations are best treated by cauterization with a fifty- to eighty-per-cent. solution of lactic acid, rubbed so energetically into the ulcer that a brownish or blackish eschar appears. Cocainization must precede the operation and insufflations are used for one to two weeks until the slough has come away and another cauterization is indicated. In the second stage in which extensive ulcerations occur and a cure is beyond hope, the antiseptic treatment is more appropriate. Inhalations of one- to three-per-cent. carbolic or applications of a ten- to twenty-per-cent. solution of menthol in olive oil prevent a secondary infection which so

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often causes rapid swelling, dyspnea and dysphagia in the last stage. In the third stage morphine and cocaine should be freely used and tracheotomy performed if necessary.

Congenital Unilateral Ptosis with Associated Movements.—The rarity of this singular condition makes a case reported by FREDERICK KRAUSS (*Phila. Med. Jour., Dec.* 15, 1900) of interest. The patient was a boy aged six years, whose mother noticed when he was born that the left side of his face was thin and poorly developed, and that there was complete ptosis of the left eyelid. The characteristics in detail are: (1) Complete ptosis of the left lid upon attempted binocular vision. (2) Complete elevation of the left lid upon closure of the right eye, and instant return of the ptosis upon opening the right eye. (3) Partial elevation of the left lid upon opening of the mouth, extreme elevation upon added protrusion of the tongue. (4) Failure of left superior rectus to draw the eye up synchronously with the elevation of the deficient lid. Especially marked was this when the right eye was also open, the lower edge of the left corner being about 3 mm. below that of the right eye. (5) Irregular movements of the eyeball; an absence of regularity in the actions of the extrinsic muscles of the eye as associated with those of the other eye. Krauss thinks that these conditions indicate (*a*) a preference of the psychical impulse to travel from the brain to the third nerve-center of the left side (thus raising the right lid), (*b*) a deficient connection between the third nerve-centers or fibers with each other (producing unsymmetrical action), and (*c*) an abnormal connection between the centers of the fifth nerve and the third nerve-center on the right side of the brain (causing elevation of the left lid with the protrusion of the tongue). The fact that the congenital lesion, the complete ptosis, improved so that the boy can voluntarily raise the lid and keep it open most of the time, proves that the connecting fibers of the third nerve were merely deficient and not absent. The treatment consisted of strychnine sulphate, gr. $^1/_{120}$, t. i. d., p. c., and the occlusion of the right eye during a portion of each day.

Electrical Treatment of Uterine Fibroids.—G. C. SEGUR (*Phil. Med. Jour.,* Dec. 15, 1900) reports in detail three selected cases to illustrate his experience with this treatment, and formulates his conclusions as follows. (1) Electricity properly applied may be considered a specific for the treatment of uterine fibroids. (2) A moderate dosage, 40 to 50 milliamperes, applied for twenty to thirty minutes, relieves pain and influences a diminution in size. (3) There are no dangers to be feared from its use if carefully conducted. (4) Puncture is not necessary in order to obtain practical results. (5) No serious operation should be undertaken until after electricity has been tried.

Angina Due to Friedlander's Bacillus.—An unusual case of recrudescing angina is reported by E. MAYER (*N. Y. Med. Jour.,* Dec. 22, 1900), who has been able to find only twelve similar cases in the literature upon the subject. The patient's history was reported in 1899 before the American Medical Association as a case of chronic diphtheria, but careful and thorough examinations have subsequently cleared up the diagnosis. The patient was a woman, twenty-one years old, and for several years has been troubled with the appearance of a membrane which recurs two or three times a week, lasting one or two days, and then entirely exfoliating of its own accord, leaving the throat in an apparently healthy condition. It always covers the palate and sometimes the entire pharynx, is pearly white when developed, with numerous fine perforations. The attack begins with a sense of tightness, the soft palate becomes opaque and a very thin, adherent membrane may then be seen. In a few hours the membrane becomes thick and the suffering is very great, but can be relieved by making gashes into the membrane. No discomfort is afterward felt and exfoliation occurs leaving a reddened, but not bleeding mucous membrane. Careful bacteriological examinations by Dr. Lartigau showed the presence of the bacillus of Friedländer in all the cultures made and a practical abscence of all other microbic species. The diagnosis is usually not very difficult, for the only other very similar condition without symptoms is leptothrix which may be excluded by the microscope. Treatment seems to be of no avail, but the case reported has recently been perfectly comfortable by the use of an alcoholic solution of orthoform.

Catalepsy.—The cataleptic state is one which is somewhat rare in occurrence in general practice, although it is observed rather frequently in asylums for the insane. G. W. NORRIS (*Phila. Med. Jour.,* Dec. 15, 1900) reports an interesting case of this disorder in a young man, twenty-three years of age, an inmate of the Pennsylvania Hospital for the Insane. This patient, a student, became very despondent after a failure to pass certain examinations. He continued to worry, ate poorly, and lost a good deal of flesh. One day he was found pounding his head against the wall. Six months later he became violent and destructive, and had to be restrained. He refused to dress or undress or help himself in any way. He repeatedly soiled clothes and the bedding with his discharges. He had not been heard to speak in six months. His limbs offered no resistance to movements and remained in any position in which they were placed for considerable periods. Because he was found masturbating, he was circumcised and blistered, and the habit checked. For nearly two years the patient's condition remained practically unchanged, although physically he had been considerably built up by food tonics, etc. Several times he screamed loudly and once replied intelligently and volubly to an attendant who scolded him. During twenty-two months the patient has never relapsed from his cateleptic condition. The length of time his limbs would remain in given positions varied from day to day during this time. While his limbs were

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placed in a grotesque position, his face would be void of expression, with upturned eyeballs and a slight quiver of the lids, suggesting the almost total suspension of intelligence and oblivion to his surroundings. He would make no voluntary effort, although he swallowed food when placed in his mouth. When left to himself he would gradually lean against some object for support, his chin would sink to his chest, and his arms would dangle at his sides. His general appearance at such times, with his pale, clammy skin and scarcely perceptible respiration, was that of a corpse. On examination his knee-jerks were found to be much exaggerated. The conjunctival reflex was present, but there was no response to deep puncture of the skin in any part of the body. The pupils were normal. There was a slight divergent squint. Circulation was sluggish and the temperature was slightly subnormal. The writer discusses the etiology, duration, frequency, prognosis, and the treatment of this condition, and thinks that this patient will probably emerge from this state in time, but with probably more or less resulting dementia. Some photographs illustrate constrained positions in which the patient remained from twenty minutes to one-half an hour.

THERAPEUTIC HINTS.

Turpentine in Skin Disease.—For psoriasis, eczema and hyperemia Crocker recommends:

℞ Ol. terebinth. rect 0.7-2.0 (♏ x-xxx)
Ol. limonis .....0.12 (♏ ij)
Mucilag. acaciæ... ..15.0 (℥ ss)
Aqua .....15.0 (℥ ss)

M. Sig.: A teaspoonful three times a day immediately after meals. One quart of barley-water to be drunk every twenty-four hours.

Pediculus Pubis.—Cut hair short and saturate part with kerosene oil for twenty-four hours. Take a hot soap-and-water bath and apply mercurial or betanaphtol ointment. Shoemaker recommends for any form of lice:

℞ Betanaphtol..... 4.5 (ʒ i)
Cologne water.....120.0-180. (℥ iv-vi)

J. M. Anders in Practice of Medicine.

Acute Aortitis.—Gilman Thompson advises absolute rest, ice-bag over aorta, aconite and opium, and the inhalation of four or five drops of ethyl iodide to control dyspnea.—*Practical Medicine.*

Gastric Myasthenia.—Massage should not be used to evacuate the stomach until the excessive fermentation is under control, write Van Valzah and Nisbet, but it then may be employed regularly four hours after the evening meal. Electrical treatment during short sittings with strong currents, and following lavage or one or two hours after breakfast, promotes digestion and the evacuation of the stomach. All constriction about the waist should be removed, and the thin, weak abdominal walls and overweighted stomach, supported by a snugly-fitting bandage. Digestion depends on the integrity of the intestinal functions, so the diet must be of small bulk, resistant to fermentation, and capable of ultilization by the intestines. Meats, fish, and the whites of eggs, finely divided, form the staple diet. Meat jellies, fresh butter in moderation, rice and wheat cereals and dry toast may be allowed, and as much as a single glass of water at each meal. Sweets, fruits and milk must be excluded. A little whiskey or brandy may be permitted. Lavage is the classical remedy and in retention is best performed before breakfast. The stomach should be thoroughly washed out with worm, boiled water containing salicylic acid, 1-1000, boric acid, 1-100, potassium permanganate, 1-1000, borax, 5 per cent., or benzoate or salicylate of sodium, 1 per cent., then with:

℞ Ac. borici..... 4.0 (ʒ i)
Ac. salicylici ..... 1.3 (gr. xx)
Aquæ .....500.0 (O j)

In a few cases in order to secure sleep, to give a long rest to the stomach, and to control obstinate fermentation, it is necessary to perform lavage at night, as late as possible so as to avoid evacuating the evening meal. Antifermentative drugs are of very little use.—*Diseases of the Stomach.*

Chlorine Compounds.—Chlorine water, chlorinated soda, and solutions of chlorinated lime, writes Bartholow, are employed locally in scarlet fever, diphtheria, aphthæ, and gangrene of mouth and fauces. They remove fetor and are also antiseptic. A gargle or mouth-wash would be:

℞ Aq. chlori..... 15.0 (℥ ss)
Aq. dest..... 90.0 (℥ iij)
Syrupi..... 15.0 (℥ ss)

Or

℞ Calic. chlor..... 2.0 (℥ ss)
Mucilag. acac..... 15.0 (℥ ss)
Aq. dest.....105.0 (℥ iiiss)

To correct fetor of the breath the following may be used:

℞ Calcis chlorat .....12.0 (ʒ iij)
Aq. dest.
Alcohol.....aa. 60.0 (℥ ij)
Ol. rosæ.....gtt iv.

M. Sig.: A teaspoonful to a tumblerful of water.—*Materia Medica and Therapeutics.*

Peptonized Milk.—A pint of milk is diluted with one-fourth water, and heated to 140° F. Two or three teaspoonfuls of liquor pancreaticus and sodium bicarbonate, gram 0.7 to 0.13 (gr. x-xx), are added and the mixture poured into a covered jug and placed under a "cozy" to keep up the heat. After an hour or an hour and a half the product is boiled for two or three minutes. It can then be used like ordinary milk.—*Bartholow in Materia Medica and Therapeutics.*

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OF MEDICAL SCIENCE.

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SATURDAY, JANUARY 5, 1901.

THE PROPHYLAXIS OF GASTRIC ULCER.

WHILE the etiology, pathology and treatment of gastric ulcer have been the subject of extended discussion, very little has been written about the prophylaxis of this affection. Ulcers with the characteristics of the conical ulcers that occur commonly in the stomach are found in but two other parts of the digestive tract, in the duodenum and in the lower end of the esophagus. As these parts, like the stomach, are frequently bathed in gastric juice, it is evident that some change in this fluid is the underlying cause of this type of ulcer. The comparative rarity of gastric ulcer shows that this change in the gastric secretion is only the predisposing cause. There must be an immediate cause for the production of the ulcer. These immediate causes can be guarded against.

There are two general conditions in which gastric ulcer are especially prone to develop—anemic and subseptic states, by which latter state is meant a condition in which, owing to the presence of a purulent focus somewhere in the body, septic material finds its way in small amounts into the circulation. It is important at such periods that patients should be warned of the danger of the development of gastric ulcer and given precise directions how to avoid the local irritation that must concur with the underlying condition for the production of the ulcer. Young anemic girls are prone to be lovers of candy and small sharp pieces are sometimes swallowed. A taste for spices and for pickles so frequent during anemic conditions leads to the ingestion of acids and local irritants, that are liable to injure the gastric mucous membrane in its state of lowered vitality. Cooks are especially apt to take superheated food, but all young women patients must be warned of the danger from this source. Seamstresses often lean for hours with some portion of a vibrating sewing machine touching their epigastrium. Anemic governesses as school teachers lean against desks, which when the stomach contains food may prove a sufficient cause to locally depress the already sluggish circulation in the stomach walls.

All of these patients must be told of the absolute necessity of never swallowing coarse or insufficiently masticated food. Bread crusts should be removed or chewed very thoroughly. Raw apples and other uncooked fruit or vegetables, even celery, should be chewed very carefully before swallowing, or avoided entirely. At no time should the patient be allowed to take a large meal.

Fatal perforation in cases of latent gastric ulcer occurs particularly in patients who, having missed a meal for some reason, with more than ordinary heartiness at the next one. In general, the advice should be given to eat five or six times during the day rather than to limit the eating to ordinary meal times with the danger of mechanically injurying the stomach.

A PSYCHOPATHIC HOSPITAL FOR NEW YORK CITY.

WITH increasing wealth, science, like an ambitious housewife, is continually treating former luxuries as necessities; and is attended by a host of servitors who evolve new conveniences to meet new needs. This is inevitable with progressive civilization; in fact, is a sign of it; and a mistaken thrift that would keep to old or inconvenient methods is a false and provincial economy. And yet, with every new cry of the city for some much-needed improvement in matters of health, science or reform, the taxpayer fancies he hears the voice of the politician clamoring loudly for the people's good, and knowing well that voice, he concludes, in his despair, that some unnecessary extravagance is being foisted on the public for the private ends of a certain few.

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But there is a distinct need in the city of New York that has not yet been voiced by politicians. It is a need that physicians and thousands of afflicted families have felt for years, namely, a receiving hospital for the diagnosis, treatment and clinical study of the acute insane. A city of the population and scientific attainment of New York ought to have a psychopathic hospital; and should not depend upon the inadequate and conglomerate system of receiving and caring for the acute insane that exists at present.

As long as Bloomingdale was situated in New York city, any patient of means could be taken there, others who had to be placed under confinement were taken to Bellevue until a diagnosis was made, and it was decided where they should be sent. Since the removal of Bloomingdale to White Plains, there is no choice but Bellevue.

The general popular prejudice against this hospital, combined with the recent revelations connected with its management, has made the city officers think seriously of transferring the function of detaining and examining insane patients to the Manhattan State Hospital. Commissioner Keller approves of this move, but adds that the medical students in the medical colleges connected with Bellevue would lose the opportunity they have now for studying insanity.

Such a move would, however, be but an inconvenient makeshift. It would dissipate rather than concentrate energy. It would add nothing to the usefulness of the State as the guardian of the insane.

On the other hand, a psychopathic hospital, centrally located, would serve for rich and poor without stigma. It would serve as a center for students; and would at the same time offer the widest opportunity for research work. The notable gaps in our knowledge relative to mental diseases have been for the most part unavoidable; students of clinical psychiatry have not had the opportunity to do research pathological work, and often pathologists' interpretations of cellular lesions are inadequately if at all corellated with the clinical diseased conditions.

In the foundation of the Pathological Institute it was hoped that this gap could be bridged, but experience has shown that what is needed in order to complete the idea is the establishment of a small reception hospital for the acute insane.

Such a hospital should be situated in the center of the city. It should be under trustee management. It should have a special training school for nurses for the care of the insane. It should be open for clinical advantages to all the regular medical schools of the city. It should be free to all the poor, and provide suitable rooms for any private patient who may be suffering from any form of nervous or mental disease.

Some thousands of patients, according to the city's experience with the receiving pavilion at Bellevue, would pass through such a hospital in the course of the year. These patients, instead of being merely objects of the city's charity, would receive the best treatment that the science of the city would command, and in turn would contribute directly to the students and neurologists of New York an opportunity to study the aspects of all forms of mental disease from every aspect.

THE DOCTOR AS A HUMORIST.

THE spirit of science has ever seemed a somber goddess, enforcing the mask of the tragic muse on her votaries and making of her cult a sad-voiced worship to be performed only in the dust and ashes of mirthless labor, while the pursuit of the abstractions wherein she delights is considered but a descent into an all-enfolding Avernus where all laughter, as well as hope, must be left behind. And, of all the throng which follows in the train of the austere goddess and lay prosy garlands at her shrine, our Teutonic colleagues are supposed to be the ones most lost to the saving grace of humor and to tread the thorny path with the sternest footstep. But the average German medical contribution, with its encyclopedic sentences in which the thought vermiculates painfully through a tangle of many-jointed compound words, and starched to such a degree of purely objective stiffness as to seem almost machine-made in its rigid suppression of the ego, gives but an imperfect and usually wholly unjust impression of the writer. He is in truth but indifferently represented by the crabbed figure we see reflected on the ungraceful pages of his manuscript, and those of us who have met him on his native heath and had pleasing intercourse with him, seated in the garden of his pretty country-house and over varying metric quantities of his national beverage, have known him as a very affable and jovial comrade with his erudition tempered by good nature and fully ready and able to spice his life with all the Attic salt available.

The annual burlesque number of that most staid and dignified of weeklies, the *Münchener medicinische Wochenschrift*, gives pleasing evi-

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dence that its distinguished editors and contributors are after all but human and the last issue is especially full of delightful nonsense.

A contribution from Dr. Swindel, of the Mississippi College, details the matchless benefits to be derived from the use of the author's "Grosshirnerholungsschraube," a slender screw-like instrument which is introduced into the base of the brain between atlas and axis. A few revolutions of the handle suffice to tighten the relaxed pyramidal fibers of the neurasthenic or brain-worker, thereby vastly increasing his motor power and capacity for outdoor exercise, while at the same time the association tracts are loosened and the cerebrum is short-circuited and given the opportunity for a much-needed functional rest.

In another masterly essay the psychopathology of Wagner's characters is discussed and the vagaries of each one fully explained by some plausible diagnosis of the alienist. Tannhäuser had circulatory insanity; Lohengrin, katatonia; Tristan gives unmistakable evidence of dementia praecox; Wotan's delusions of grandeur, with his failure to keep promises and other moral lapses, afford the classical picture of a middle-aged gentleman with beginning general paralysis, while the hapless Siegfried, with his unfortunate family history, is nothing but the victim of heredity and well-pronounced hebephrenia. An interesting bit of medical history is given in the reproduction of some of the quaintly-worded aphorisms of Mittelhäuser, an enterprising gynecologist of the sixteenth century who divides operative work in his specialty into three classes. The first comprises cases in which there is real disease of the pelvic viscera and an operation is followed by good results. This is but inferior workmanship and is often done by the least intelligent of practitioners. Then there are patients who have some slight trouble which might be relieved by conservative measures, but if the physician insists on removing uterus and adnexa it at once places him on a much higher plane of skill. And, finally, those are masters of the art, true favorites of Hippocrates, who have reached such a vanishing point of dexterity as to make a clean sweep of the pelvic contents even when there is absolutely no disorder whatever!

The proceedings of the Medical Congress of 2001 consider the grave question of how the sufferings of the profession from overwork are to be relieved, for, although each physician is now a Crœsus, what avails his wealth if the deluge of patients allows him no leisure to enjoy it? The remedy is simple, since the whole of treatment is reduced to wet packs and organotherapy, a three-months-course of study is sufficient to acquire proficiency, and the ability to write one's name is all the preliminary education needed. The Paris letter announces the discovery of a new organ extract, "piscilinguin," obtained from the tongues of fishes and intended to restrain unbearable loquacity in the gentler sex, while there is also an account of the localization of the prescribing center. By experiments on one hundred physicians it was shown that prescribing was a purely reflex act, stimulation of centripetal fibers for hysteria, for example, always causing the hand to write "Tr. Valerian," and that it could be performed entirely without the aid of the cortex.

Finally, there is a poetic effusion which celebrates in well-rounded strophes the invention of the enema in early Egypt, the somewhat Rabelaisian nature of the subject being condoned by the cleverness with which it is handled. Even the pseudo-advertisements are full of fun and the whole effect is to give a very pleasing impression of Jack at play.

ECHOES AND NEWS.

NEW YORK.

New York Academy of Medicine.—On Thursday, January 3, 1901, Dr. W. H. Thomson, the retiring President, gave an address. This was followed by the address of the incoming President, Dr. Robert T. Weir.

Appointment of Dr. Weeks.—Dr. John E. Weeks, University of Michigan, '81, has been appointed to the professorship of ophthalmology in the New York University and Bellevue Hospital Medical College, made vacant by the death of Dr. Henry D. Noyes. Dr. Weeks has been a lecturer in the medical school for the past two years.

Hebrew Sheltering Guardian Society.—This very worthy charity has just issued an appeal for $350,000 for the construction and maintenance of new buildings for neglected, destitute and orphaned Jewish children.

A Study of Cinchona.—At the regular meeting of the New York College of Pharmacy, 115 West 68th street, to be held Tuesday evening, January 15th, the subject of "The Cinchona Barks of the New York Market" will be presented by Mr. J. H. Stallman, and discussed by Mr. Albert Plaut and others. Mr. Stallman will illustrate his remarks by an elaborate series of specimens, and the College collections of barks

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and herbarium specimens will be exhibited by Dr. H. H. Rusby, the entire series of specimens constituting probably the most extensive cinchona collection ever brought together in this country.

Obituary.—Dr. Isaac Warde Ferris died last week at his home in Mount Vernon from heart disease. Dr. Ferris was sixty years of age. He was born in New York city. He was graduated from the University of the City of New York, of which his father, Isaac Ferris, was chancellor from 1856 to 1869. Dr. Ferris practised medicine in Grand Rapids, Mich., and Schenectady, N. Y., and went to Mount Vernon twelve years ago. He is survived by a widow, who was Miss Cornelia S. Danforth, a sister of Elliott Danforth, and two daughters.

Charitable Bequests.—By the will of the late Henry Villard the following medical charities were benefited: The New York Infirmary for Women and Children, $10,000; The Charity Organization Society, $2,500; The State Charities Aid Association, $2,500; The New York Society for the Prevention of Cruelty to Children, $2,500; The New York Medical College and Hospital for Women, $5,000; The German Hospital and Dispensary, $10,000; The Dobbs Ferry Hospital Association of Dobbs Ferry, N. Y., $5,000. Both Columbia and Harvard Universities will receive $50,000, unrestricted.

General Vaccination in Brooklyn Schools.—In view of the growing fear of smallpox in Brooklyn, the Committee on Health of the local School Board, with the sanction of the Board, to-day notified the principals of the public schools that there was urgent necessity of careful examination of the records of pupils in regard to vaccination, and called upon them to notify parents of pupils whose records were not satisfactory that unless the State law was at once complied with, these pupils would be dismissed from the schools.

Office Thieves.—Two well-dressed men were being sought by the police of Brooklyn last week for robbing doctors. The men called at the office of Dr. Lorenzo M. Nickerson at Berry and South Ninth Streets, and when they were told that the physician was not at home they said they would await his return. They disappeared later and Dr. Nickerson discovered that a case of surgical instruments was missing. From the house of Dr. E. M. Bullwinkle at 80 South Ninth Street the thieves stole an overcoat. They also called at the home of Dr. Lottie A. Cort at 89 Division Avenue, but got nothing. Later they appeared at the house of Dr. William McLenathin, in Division Avenue near Berry Street, of Dr. Charles Zellhoefle at South Fourth Street and Driggs Avenue and at the office of Dr. Silas Blaisdell in Roebling Street. Each of these doctors was at home and the men asked for advice in connection with the supposed illnes of the wife of one of them and went away.

Lunacy Commission Economies.—As a result of the year's operations the State Commission in Lunacy reports a further reduction in the cost of maintaining the insane, in the face of a marked advance in the price of nearly every article entering into provisions and stores account. A thorough investigation has been made by the Commission of the pay-rolls of the New York State hospitals, and a marked reduction was effected in the salaries and wages of officers and employees. The average cost of maintaining the insane during the year just closed was $165 (inclusive of every item—salaries, wages, provisions, medicines, fuel and light, etc.), as against $178.42 for the preceding year. Building operations were conducted on a vast scale during the year on Long Island and on Ward's Island for the accommodation of patients of the Manhattan State Hospital. Further experimental studies have been prosecuted by Professor Atwater, the Government food expert, with a view to a more nutritious and at the same time more economical dieting for the insane of New York.

Bellevue Changes.—Commissioner Keller discharged seventeen employees of Bellevue Hospital last week. Their discharge, it is said, however, had nothing to do with the present investigation into the affairs of that institution. The reason given for all of the dismissals is insufficiency of appropriations.

Notices were sent out last Monday for a meeting of the Medical Board of the hospital on Wednesday. Drs. Fitch and Wildman, and Moore and others will present reports on the recent troubles. One of the cases which the Board has been asked to report on is that of Luther E. Newport, the wealthy patient in the insane ward who was committed to Amityville, and from whose relatives certain physicians are alleged to have collected $200 in fees when only $25 was allowed. Dr. Fitch and Dr. Austin Flint are both preparing reports to the Medical Board on the case. Dr. Flint said that his report would cover his entire connection with the hospital. By courtesy, he said, members of the Medical Board were allowed to visit private patients in the insane ward and their examinations were not under the control of the department. They were the same as though the patient was in a private institution, he said. Mr. Keller is prepared to fight the Medical Board if necessary. He said that the Board was subject to his orders in the investigation and must answer his questions. "I have demanded an explanation," said he, "and I will get it. I have reprimanded Drs. Fitch, Wildman and Moore for their administration of affairs in the insane ward and I have asked an explanation from Dr. Fitch for collecting excessive fees from patients. If these physicians are

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wrong things will be made right, but the guilty men will have to take care of themselves."

Cornell Medical College Opening.—The exercises formally opening the new Cornell University Medical College building which has been in use since last August, were held in the main lecture hall of the building last week. Speeches were made by Governor Roosevelt, President Seth Low of Columbia University, Dr. Lewis A. Stimson, and Jacob G. Schurman, President of the University.

President Schurman said in part: "We meet together to dedicate this new building committed to our charge for the relief of man's estate in the twentieth century and the countless ones to follow. The object of this building and the aim of this college is the protection of human health. This institution is devoted to investigation and instruction. While it is eminently a practical place, provision has also been made for carrying on scientific research. Besides building and scientific equipment, there is something else of vastly more importance, and that is the men whose intelligence and capability determine the worth of any institution."

President Schurman then introduced Dr. Lewis A. Stimson, who read a paper detailing the aims and purposes of the school, and following Dr. Stimson introduced the Governor, who said: "I shall not attempt to add anything to what Dr. Stimson has said so well. But I wish to ask your attention to the need of having in the community men who will do as Colonel Payne has done, and of the duty which rests on men of Colonel Payne's kind to act in that manner. There is need, as Dr. Stimson showed, of a State having an opportunity open for men to do work which is of the utmost importance, but which must be done without pay, or, at most, paid for far out of proportion to its value. It would not be saying too much to say that the men who made the America of which we are so proud to-day were absurdly paid from a financial standpoint. Men in different walks of life, the great inventors, artists, statesmen, mechanics, electricians, scholars, lawyers, physicians, are almost always men whose reward has been the work itself. From the time when Milton sold one of the three greatest epic poems the genius of mankind has produced for $5 down to the present time, the best work has almost always been work for which remuneration could not have been given. There must be a recognition of the need for such work or there will be a failure on our part to provide those conditions under which such work can be carried on. To a certain extent these conditions can be furnished by the State, but it is questionable how far the State's jurisdiction in such matters shall extend. But no matter how much the State may do, no act by it can supplant the action of private individuals. In their initiative we must look for the initiative which will enable the research work of the world to be accomplished. Action by State and individual must go hand in hand.

"I think that no small amount of praise is due Colonel Payne for the right he has given others to use his gift without restraint or condition. It is an eminent instance of good American citizenship, both in what he has done and in how he has done it. We must remember that the necessity of unremunerative work also imposes as well the need of having remunerative work done. You cannot expect the laboratory to be built and maintained unless a portion of the wealth made in the great channels of business is set aside for their maintenance. We owe a great debt to the scientific man unquestionably, but we owe an incalculable debt to the man of affairs who has foresight and breadth of mind to see the necessity of providing means by which such work can be prosecuted. I feel that we should be congratulated ourselves as residents of a community with so many grave problems confronting it, upon having such a distinct addition to the forces which must war interminably for right against the forces which war for wrong."

President Low of Columbia said: "It's a great pleasure to welcome a younger colleague in the fight which education is waging against ignorance. Columbia rejoices in this new gift equally with Cornell; for no matter what university receives a gift every other university benefits equally from it. The higher the standard Cornell maintains the higher Columbia is bound to be for it, and vice versa. If men start out to gain there may well be some jealousy, but if they start out to give, one can only emulate the other. So the oldest medical faculty in this State congratulates the youngest on the magnificent equipment it has received, and rejoices with it."

Dr. Polk then made a few remarks and the exercises closed. In the evening a reception was held in the building from 8 until 11 o'clock.

Brooklyn Neurological Society.—At the annual meeting of the Brooklyn Society for Neurology, held December 27, 1900, Dr. W. H. Haynes was elected president and Dr. B. Onuf secretary for the year 1901.

PHILADELPHIA.

Section on Ophthalmology, College of Physicians.—At the meeting of December 18, 1900, Dr. G. C. Harlan showed a patient with myosis and ptosis, due to a gunshot injury of the right cervical sympathetic received five years ago. The right pupil responded promptly to light, but was 2 mm. smaller than the left either in contraction or dilatation. There were no other symptoms and no history of unilateral sweating. Dr. James Thorington exhibited a boy, fourteen years old, with subluxation downward and inward of each lens. Dr. C. A. Veasey reported a case of restoration of useful vision in a complicated case of acute inflammatory glaucoma of ten days' duration, with visual acuity reduced to

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the perception of light. Dr. H. F. Hansell reported a case of tuberculosis of the conjunctiva in a healthy child thirteen years of age. The diagnosis was based upon the microscopic examination made by Dr. E. A. Shumway that demonstrated a central area of necrotic tissue surrounded by mononuclear cells and by cells of an epithelioid type, with many giant-cells. Dr. W. M. Sweet exhibited a piece of iron imbedded in inflammatory exudate removed from the vitreous by forceps after failure of magnet.

The Case of Insane Criminals.—What was feared might prove to be another hospital scandal has been cleared up by the Coroner's jury in the case of Frank Hodges, a colored inmate of the State Hospital for the Insane at Norristown. Hodges died December 26th, ten hours after an encounter with three of his attendants, several of his ribs having been broken during the struggle. The inquest brought out the fact that Hodges was a homicidal maniac and had made previous attacks upon fellow-inmates and attendants. The verdict of the jury was that Hodges died from organic troubles (heart and kidney disease), his death being hastened by the struggle with his attendants in their efforts to restrain him from injuring himself and others. The hospital authorities and attendants are exonerated from all blame. The verdict closes as follows: "We recommend that the proper authorities establish a place for the treatment of the criminally insane as their presence here is a menace to the lives of both patients and attendants." The hospital staff strongly endorses this recommendation. There are now about fifty criminally insane patients in the institution, the facilities of which do not allow of their proper and safe keeping.

Nervous System in Rabies.—At the Pathological Society December 27th, Dr. D. J. McCarthy gave the results of postmortem findings in a number of cases of rabies. The cases included dogs, horses, etc., and one human being. In the medulla and pons there was found cavity formation resembling pseudoporencephalia. The tissue surrounding these cavities, however, showed no evidence of inflammatory reaction. This, together with other facts, proved the cavity formation to be a postmortem change. In some of the cases large bacilli were found, but the variety could not be demonstrated. Dr. Wm. G. Spiller stated that the lesions found in rabies may also occur in other diseases, as acute ascending paralysis. These lesions are probably the result of general irritation or proliferation. Dr. Spiller concludes that there are no lesions of the nervous system specific to rabies.

Scurvy, not Rheumatism.—Dr. J. P. Crozer Griffith read a paper on the above subject at the County Medical Society December 26th, reporting 16 cases of infantile scurvy. The cause of scurvy is a dietetic one, but with our present knowledge no one dietetic error can be blamed. Proprietary foods are the cause in some instances, one of the 16 cases reported having recovered when such food was stopped. In Dr. Griffith's experience sterilized milk is not a factor in the production of scurvy, no noticeable harm having come from its use. The heating of milk, therefore, should not be hastily abandoned in such cases if there be any reason which makes its continuance desirable. The disease is preeminently one that affects the children of well-to-do persons, there not being a child among the 16 cases reported which had not been carefully cared for. Rheumatism is the diagnosis most frequently made when a case of scurvy is not recognized as such. This is due to the fact that a spongy condition of the gums is not the symptom first noticed in the majority of cases. Instead of this there is pain in the legs. Indefinite pain in the legs should be regarded as presumptive evidence of the existence of scurvy. Aiding in the differential diagnosis is the fact that the pain associated with scurvy is not felt in the joints. The therapeutic or the dietetic test is generally sufficient. The test by the use of the salicylates is not always reliable, one case of scurvy having improved for a time under the administration of salicylate of strontium, though entire recovery did not take place. The use of orange juice is a better test. The treatment of scurvy is most simple and consists principally in the exhibition of fruit juices. Several cases recovered under this treatment, although the regular diet was not changed in the least. Dr. H. A. Hare, in speaking of the diagnosis, mentioned one case of scurvy in which excessive tenderness of the spine was the only symptom. In another case the child kept up an incessant screaming. A notable point in the latter case was that it was a breast-fed child. In a third case the parents were wealthy and had purchased a high-priced Jersey cow to ensure a pure milk supply for the child. Dr. Hare states that scurvy is more frequently found among the richer classes of people, while rickets is a disease of the poor.

CHICAGO.

Chicago Medical Society.—At a meeting, held December 26th, Dr. Daniel H. Williams read an interesting paper on "Ovarian Cysts in Colored Women," and presented notes with regard to the relative frequency of fibromata in both races. Dr. E. A. Fischkin reported a case of an eruption which resembled pemphigus vegetans in an infant five months old.

Obituary.—Dr. Randolph N. Hall, for twenty years a practising physician, dropped dead Sunday, December 30th, shortly after his return from church. Apoplexy was said to be the cause of death. He was a native of Ohio, and a veteran of the Civil War. After the war he studied medicine at Rush Medical College and other Chicago medical colleges. He was president of the Illinois Medical College when it was founded and a member of various medical associations.

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Committee on Medical Legislation of the Illinois State Medical Society.—This Committee has been endeavoring during the past five months to find out what the profession of Illinois considered desirable legislation. It has been discovered that the irregulars are making every effort to organize their ilk for the introduction of vicious legislation and the defeat of existing legislation. After having canvassed the matter thoroughly, the Committee believes that there are a few things on which the profession is fairly well agreed, and that the best plan for the present is to league together as many of the doctors of the State as possible. The objects should be: (1) To secure the appointment of the best men for the various medical positions in the State, when a vacancy occurs. This work is more particularly in charge of the Judicial Council of the State Society. (2) To prevent vicious legislation which will undoubtedly be proposed at the next session of the Legislature. (3) To secure the enactment of better sanitary and health laws. There is especial need for organization of a permanent league for the promotion of the material interests of the profession, and to give support to all desirable sanitary and health measures. One of the first duties of such a league would be to protect the members of the profession against unjust suits for malpractice. Organization will accomplish what any amount of individual effort will fail in. Those who become members of the league, who are not members of the Illinois State Medical Society, will be kept constantly informed of the various plans devised for preventing vicious legislation and securing that which is desirable as well as perfecting plans for a permanent organization.

Hospital Internes.—Physicians appeared recently before the service committee of the County Board and argued for the present system of appointing internes. The resolution of Commissioner Organ was denounced, and a substitute resolution was submitted by Dr. Denslow Lewis, which asked for the assignment of patients to the three medical staffs on duty at the hospital in accordance with the number of students now in attendance at the medical colleges in this county. The present attendance is: Eclectic, 101; homeopathic, 659, and regular, 2,648. This gives the following ratio for the assignment of patients: One to the eclectic, 6 to the homeopathic, and 26 to the regular. No final action was taken by the Committee, but the physicians were asked to express themselves, which they did, and a majority of them present stated that the system now in vogue was satisfactory.

West Side Hospital Training School for Nurses.—An institution bearing this name was recently incorporated by Drs. D. A. K. Steele, William L. Noble and George W. Newton.

GENERAL.

Western Surgical and Gynecological Association.—At its meeting, held at Minneapolis, December 27th and 28th, the following officers were elected for the ensuing year: President, Dr. A. F. Jonas, Omaha, Neb.; Vice-Presidents, Dr. A. W. Abbott, Minneapolis, and Dr. C. E. Ruth, Keokuk, Ia.; Secretary-Treasurer, Dr. George H. Simmons, Chicago; Executive Council, Dr. O. B. Campbell, St. Joseph, Mo.; Dr. H. C. Crowell, Kansas City, Mo.; Dr. John P. Lord, Omaha, Neb.; Dr. James E. Moore, Minneapolis, Minn., and Dr. M. L. Harris, Chicago, Ill. Chicago was selected as the place for holding the next annual meeting.

Detailed to the Pan-American Congress.—Major Walter Reed, Surgeon, has been detailed to represent the Medical Department of the Army at the Pan-American Medical Congress which is to meet in Havana on February 5th.

Yellow Fever and the Soldiers.—Acting on the recommendations of the Board of Officers Governor General Wood has issued an order in Havana which declares that the chief surgeon of the Department of Cuba has reported that it is now believed to be well established that malaria, yellow fever and filarial infection are transmitted by the bites of mosquitoes. The troops are enjoined to observe carefully two precautions: First, they are to use mosquito bars in all barracks, hospitals and on field service whenever practicable; second, they are to destroy the "wigglers" or young mosquitoes by the use of petroleum on the waters where they breed Permanent pools or puddles are to be filled up. To the others are to be applied one ounce of kerosene to each fifteen square feet of water, twice a month, which will destroy not only the young, but the old mosquitoes. This does not injure drinking water if drawn from below and not dipped out. Protection is thus secured, according to the order, because the mosquito does not fly far, seeks shelter when the wind blows and that each community breeds its own mosquitoes.

Mad Dogs in Rochester.—According to press despatches, rabies has been declared epidemic in the city of Rochester by Health Officer Goler and Mayor Carnahan has ordered that all dogs be muzzled. This is the announcement to the Mayor by Health Officer Goler:

To the Hon. George A. Carnahan, Mayor:

Sir: In response to your request I have the honor to report that rabies has become epidemic among dogs in the city of Rochester. Between about June 1st, and the present date I have seen somewhere between twenty-five and fifty dogs with unmistakable evidences of rabies. A number of these dogs have proved rabid by inoculating other animals, chiefly rabbits. And in four cases the work of this department has been corroborated by Prof. V. A. Moore of Cornell University and

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by M. B. Ravenel of the University of Pennsylvania. As rabies is a disease having long period of incubation, in dogs from 10 to 240 days, it appears necessary that stringent measures should be taken for the protection of the public against the bites of animals, either those known to be rabid or even bites given in play, as it has been experimentally proved in a number of cases that a dog may be capable of transmitting rabies before the animal has itself developed the disease which lies dormant in it. I have, therefore, the honor to recommend as most necessary at this time the promulgation of an ordinance which shall not only compel all dogs to be muzzled with a basket muzzle, but shall also require that all dogs shall be led.

Such an ordinance appears most urgent, because rabies in animals has such a long period of incubation and because the disease appears not in the furious but in the milder and therefore the more dangerous form, the dogs often appearing to have what is known technically as "mouth drop;" that is, the dog being unable to close its mouth and having but a slight paralysis of the hind-quarters. This mild form of the disease is more dangerous than the furious form, because it is not generally recognized and the dog is often believed to have distemper or some other dog disease when it really has the most dangerous form of the disease known. For these reasons, and for the further reason that no authentic case of recovery from the disease after it has once developed in man has ever, to my knowledge, been reported, I have the honor to submit these recommendations. Respectfully,

George W. Goler, Health Officer.

The Mayor's official order regarding the muzzling of dogs follows: "It appearing to me from the reports of the Health Officer of the city of Rochester, that it is necessary that the precautionary measures be taken against the spread among dogs of the disease known as 'rabies;' now, therefore, pursuant to Section 12 of 'an ordinance relating to public pounds and stray animals,' passed by the Common Council of said city on the 11th day of May, 1897, it is ordered: That, until further notice, the owners of dogs are prohibited from allowing them to run at large in any public street or place within the city of Rochester, unless such dogs be securely muzzled or led by a line or chain so as effectively to prevent them from biting any person or animal.

"George A. Carnahan, Mayor."

Rochester, Dec. 28.

Accompanying the letter from Dr. Goler to the Mayor, were copies of letters received from Professor Moore of Cornell University and Dr. Ravenel of the University of Pennsylvania, stating that they had made tests with the brains of dogs and horses sent them by Dr. Goler and had proved beyond doubt in their minds that the animals from which the brains were taken died of rabies. The histological changes found were those characteristic of this condition.

CORRESPONDENCE.

A WORD FROM DR. GOULD.

To the Editor of the Medical News:

DEAR SIR: Although the rumor had for some time been current that a change in the editorial management of the Philadelphia Medical Journal had been planned, to take place synchronously with the obtaining of a controlling interest in the concern by a lay newspaper publisher of this city, the thing seemed so absurd that I did not give it credence, until I received sure information from a private hand that such action was contemplated, a meeting being called so late on Monday afternoon as to afford not an hour's notice. This reached me just as the forms had gone to press on Friday evening. Thinking it merely just to my friends among the subscribers that I should say a word of farewell, and not dreaming that such opportunity would be refused to me, I inserted the following editorial with two others. They were removed.

"Just as the last forms are going to press I learn that the present number of the Philadelphia Medical Journal will be the last (except as to the original article department of the next issue) for which I shall have editorial responsibility. I am unable to set forth the reasons why the Board of Trustees no longer wish my services as editor. I have not heard of any criticism upon their part of my conduct of the Journal, and my communication handed to the Board in session on December 8th, expressing my desire to be retained as editor, has not been answered.

"To the thousands of friends, to all subscribers, who may read these lines, I can only here express my most profound regret at the sudden separation. In the endeavor to aid in establishing a great independent medical journal, utterly free from publishers' influence, from commercial bias, and from what is, if possible, still worse, an unprofessional spirit within the profession, I have given my labor and my life, all too freely. What mistakes I may have made I trust may be excused in the belief that they were due to a sincere desire to devote every line of the reading columns to the cause of professional truth and honor."

The essence of the matter lies in the above, although it may be added that the only conflict of which I am aware was upon the question of editorial independence, this even having reached the extent of the establishing of a lay censorship during my absence last summer. Although this was abrogated upon my return, I suppose the effort must have been continuous, leading necessarily to the selection of someone likely to prove more compliant to act as editor. There are other points of interest, which take too much space to explain. But the first official intimation that my services would no longer be required reached me at 6 o'clock on Monday, and the editorial pages of the Journal, as they appeared when the issue of the 29th was finally published, were censored during my incumbency as editor.

GEORGE M. GOULD.

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OUR LONDON LETTER.

[From Our Special Correspondent.]

LONDON, December 22, 1900.

THE OUTBREAK OF ARSENICAL POISONING FROM POISONED BEER—ABOUT TWO THOUSAND CASES IN MANCHESTER ALONE—ALLEGED DEATHS FROM PERIPHERAL NEURITIS—CASES IN LIVERPOOL—ARSENIC DISCOVERED IN THE URINE—RECOVERY OF AN INFANT AFTER FOURTEEN AND ONE-HALF HOURS' ARTIFICIAL RESPIRATION—DEATH OF DR. RICHARD NEALE, AUTHOR OF THE "MEDICAL DIGEST"—THE INQUIRY INTO THE MANAGEMENT OF THE NATIONAL HOSPITAL FOR THE PARALYZED AND EPILEPTIC—ANTI-VACCINATORS IN CONGRESS.

THE OUTBREAK of arsenical poisoning in Manchester and vicinity, from poisoned beer, is the center of public attention, and has given rise to scares all over the country as to the purity of beer. Rumors are constantly arising of cases of poisoning and a number of deaths have been recorded as actually or possibly due to arsenic in beer. The whole subject is now engaging the attention of the government, and experts are at work on the investigation. I think it best not to trouble you with the different sensational reports which have not been verified, but will speak of ascertained facts. Dr. Niven, Medical Officer of Health for Manchester, in a report to the Sanitary Committee, says it may be assumed that there have been about 2,000 cases of poisoning from beer containing arsenic. He examined samples of sugar and saccharine from six local breweries, and found arsenic in them all.

Sir Lauder Brunton, Dr. Stevenson, Dr. Luff and others have been appointed by the Manchester Brewers' Association to inquire into the presence of arsenic in beer. As the result of a week's investigation, they have issued an interim report. They conclude that the materials in current use in brewing in Manchester are free from arsenic, with the exception of certain sugars supplied by Messrs. Bostock & Co., of Liverpool. In appearance and price these sugars are indistinguishable from perfectly pure sugars. They recommend that all beer in the brewing of which these sugars have been used should be at once recalled, and if found contaminated be destroyed. Also that no beer be sent out until it has been tested and found free from arsenic. A number of deaths from peripheral neuritis, alleged to be due to arsenic, have occurred. Inquests are now pending, so that it is premature to offer an opinion.

At Liverpool, four samples of beer were found contaminated with arsenic, one considerably. At Birmingham, arsenic was found in twenty out of one hundred and seventy samples. The number of cases of peripheral neuritis in Liverpool has been much less than in Manchester, but has lately been decidedly increased. They correspond rather to beri-beri than to arsenical poisoning as described in Manchester. When the discovery of arsenic in the beer of Manchester was made, the urine of one of the Liverpool patients was examined and found to contain arsenic. The superintendent of the Mill Road Infirmary states that during the last week nine cases were admitted to the infirmary. He rather naïvely remarks that the character of the cases has undergone a change, as the new admissions present more of the symptoms of arsenical than of alcoholic neuritis! One case gives an indication of the amount of beer necessary to produce the symptoms, and the time required: A man aged forty, who had been a teetotaler for six months, drank, on November 24, 25 and 26, thirty-six pints of beer. In forty-eight hours he was seized with burning pain in his face, ears, hands, and feet, edema of the eyelids, and running of the eyes. He had no vomiting, or diarrhea. Under treatment he was soon much improved. Arsenic was found in his urine on December 2 and 3, but not on December 4. One woman who had been in hospital for two weeks died from excessive beer drinking with arsenical symptoms. The Liverpool brewers have destroyed upward of 1,000 gallons of beer containing arsenic.

A very remarkable case in which an infant recovered after fourteen and one-half hours of artificial respiration is recorded in the *Lancet*, by Dr. G. E. Keith. The child was seven days old, and was prematurely born by three weeks. Circumcision was performed. He "did not breathe well under the chloroform, and lost more blood than usual." The operation was performed in the morning; during the night he became cyanosed, and soon respiration stopped, but the heart continued to beat. Artificial respiration was commenced, and after twenty minutes natural respiration was established, only to cease in a few minutes. Artificial respiration was recommenced. Soon the heart seemed about to fail, and the pulse dropped from 200 to 100. Hour after hour the doctor kept up the monotonous artificial respiration, becoming more and more convinced that he labored in vain. At noon a creak occurred, showing that the lungs were filling with fluid. The heart was again failing. A cylinder of oxygen was then available, and its use caused great improvement. The face lost its earthy hue, the moist sounds died away, and the heart beats increased in strength. At 3:30 p.m., twelve hours after the commencement of artificial respiration, a feeble inspiration took place, and at 5:45 natural respiration was established.

By the death of Dr. Richard Neale the profession has sustained a great loss. His life-work, the *Medical Digest*, at which he labored until the end, is invaluable to every member of the profession. As a student he commenced at the work by noting for his own use important points which appeared in the medical journals. When he began practice, in Java, he found these so useful that he decided to continue the work. Some fifty periodicals were used. They were all in the English language, and were principally British. The work included a record of the most important points in the journals. Thus perhaps to one article twenty or thirty references would be made. The labor involved may be imagined. At this work Dr. Neale labored four hours a day for fifty years. Successive editions of the *Digest* were brought out, and though the work was well appreciated, it was never remunerative. True,

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in the closing days of his life a subscription list was opened in the medical journals to present him with a testimonial, which it was decided would take the form of a portrait of himself, and Dr. Neale was well pleased with this small and tardy recognition of his labors. As has been said, the great value of the work lies in its use to the busy practitioner. The author, the bibliomaniac, anxious to cover a page with references good, bad, and indifferent, in order to display his learning, will not find it of much use. But the practitioner who is always encountering anomalies and curious variations of disease, need never look in vain in the *Digest* for information on any point, and in cases in which ordinary treatment fails, will find scores of suggestions.

The Lord Chancellor, the Right Honorable Sir Ford Worth, has consented to conduct an inquiry into the allegations made by the medical staff of the National Hospital for the Paralyzed and Epileptic. On this matter I have already advised you. He will report on (*a*) the diet of the patients; (*b*) their condition, care, and treatment, and (*c*) the nursing. It is certainly time that the long standing complaints of the staff as to the management of this most important charity both from the scientific and the humanitarian standpoint, were thoroughly sifted.

The National Anti-Vaccination League have held their annual conference. Like every other "anti-" body in this country the league receives a good deal of support from a number of important people whose intellectual caliber is by no means deficient. The president of the league, Lieutenant-General Phelps said that there were now 3,000,000 children under the age of fourteen in England, who were not vaccinated. He ridiculed the "Conscience Clause" of the recent Vaccination Act, which virtually abolishes compulsion by allowing exemption from vaccination on the parents of a child making a declaration before a magistrate that they have a "conscientious objection" to vaccination. Mr. Hopwood, Q.C., the recorder, of Liverpool, declared that the statistics of the French and German armies in the war of 1870 which showed the great value of the thorough rules of vaccination of the Germans, were false. It is evident that nothing short of an epidemic of small-pox will convince a large section of Jenner's countrymen of the value of his discovery.

TRANSACTIONS OF FOREIGN SOCIETIES.

British.

FIBROMA OF THE TONGUE—CARCINOMA OF A SUPERNUMERARY NIPPLE — PSEUDO-ACTINOMYCOSIS—CLEIDOTOMY—APHASIA—ABSCESS OF THE SCALP—RACHITIS AND TUBERCULOSIS—VESICAL OPERATIONS—UNDESCRIBED URINARY CRYSTALS—TRANSVERSE SUPERFICIAL PERINEAL INCISIONS—THROMBOSIS OF THE ASCENDING CAVA, COMMON AND EXTERNAL ILIAC VEINS SIMULATING PERFORATED GASTRIC ULCER—SPLENECTOMY — INTERMITTENT ESSENTIAL FEVER OF SYPHILIS.

W. G. SPENCER, at the Pathological Society of London, November 20, 1900, exhibited a specimen of fibroma of the tongue, removed with a portion of the organ on the diagnosis of carcinoma, because it was ulcerated and extended into the muscular substance. Its site was ventral and mesial, suggesting an origin from the remains of a fetal structure representing the glossohyal element present in certain mammalia and in the tongue of the chameleon. This element is bony in the horse, cartilaginous in the dog, and portions of both bone and cartilage have been found in the fetus in its site and explicable only on these grounds.

The same author presented a specimen of carcinoma arising in a supernumerary nipple, sypheroidal-celled, ulcerated, without secondary disease of the axillary glands, histologically of the type of rodent ulcer.

In the neighborhood of this was a second mole, pigmented, covered with unaltered epidermis, filled with structures like sweat ducts, without malignant characters, but probably readily convertible to a carcinoma, as had occurred in the first one. Rodent ulcers in birth marks and moles have been recorded by others. The cutaneous glands enlarging in pregnancy are of the class of sweat glands.

DR. HABERSHON and P. S. HICHENS presented a case of pseudo-actinomycosis. The history is: Errand boy, seventeen years old, admitted to the Brompton Hospital November, 1897, with cough, expectoration, pain in the right chest, dulness over the lower half of the right lung, feeble tubular breathing, and slight hepatic enlargement. His temperature ran from 101° F. to 102.4° F., with occasional fluctuations. The sputum increased in amount without traces of tubercle or other organisms. A collar button was suddenly coughed up, in December, with a large amount of sputum. This was followed by so much improvement in all the symptoms that the button in bronchus was assumed to be the cause of all the trouble. In three weeks the signs began to increase slowly, and in four weeks more an abscess developed in the right nipple line over the sixth rib, the temperature showed diurnal fluctuation and at the end of February, 1898, the abscess was incised and some pus escaped. The discharge increased and became offensive. The fluctuation of temperature increased, following an intermittent, and finally a remittent type. Hepatic dulness increased. Several exploratory operations failed to discover any focus of pus, or to relieve the patient. Progressive prostration, jaundice, and successive rigors developed, and death in May, 1898.

The necropsy revealed an old collapse and induration of the base of the right lung; extensive cheesy infiltration of the right lobe of the liver extending into the left lobe, with many softened, pus-filled cavities, but without true honey-combing; the capsule of the liver beneath the diaphragm, was covered with a caseous layer partly adherent to the diaphragm, forming mul-

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tiple abscesses, and one suppurating tract communicating with the external wound. The pus contained small granules, in size resembling those of actinomyces, but in color differing by being of pale or cream yellow, and by being very friable. Weigert's modification of Gram's stain revealed a mycelium composed of delicate streptococcus—like threads, though one series presented most delicate filaments; all smaller in size than the normal actinomycotic mycelium and more abundant in sporulation, some apparently consisting of nothing but strings of cocci. Stained bodies from the caseous area about the liver showed concentric rings similar to those in actinomyces, under low power. High magnification showed multitudes of very small cocci with many delicate threads in streptothrix form, with no evidence of dichotomy. Allusion to the literature on the subject was made, especially to the anomalous actinomycosis called oösporon asteroides and bacillary actinomycosis. This case appeard to differ essentially from these, and from the true disease. The absence of the clubs does not appear important, because in the human subject they are often absent. Perhaps this is another form of streptothrix presenting clinical and pathological similarities with the ordinary actinomycosis. Habershon also showed another specimen of this disease, with scattered multiple abscesses all through the body and with secondary caseous hepatic degeneration.

J. W. BALLANTYNE, at the Edinburgh Obstetrical Society, November 14, 1900, reported a case of cleidotomy with the following history: The twenty-five-year-old primipara showed signs of rickets, contracted pelvis with three-inch conjugata vera diameters, and after twelve hours' labor the head at the brim in the left occipito position. The forceps were futile. Basilysis, then crushing of the base of the skull, had to be done. The head was then brought down to the perineum and partly through the vulva, where a fetus became impacted. The right clavicle was now divided with long, strong, blunt-pointed scizzors, and a blunt hook was passed through the left axilla. In this manner delivery was accomplished and a good recovery resulted. There are several other cases of cleidotomy, as an auxilliary of cephalotripsy, reported in literature. Other operations may be substituted for it. Cleidotripsy is inelegant and unsatisfactory; cleidorrhesis is difficult and uncertain. The force is applied to the shoulders, and may be used in breech cases when the most of the trunk has been born; supra-acromistomy is a good substitute when the clavicles can not be reached, and is available in severe cases like eclampsia, otherwise it is inexact. The technic of cleidotomy consists simply in passing the index of the middle fingers of the left hand over the thorax of the child, and then with the right hand advance the scizzors along these as guides and cut the bone at the desired point. Its indications are (1) a broad-shouldered fetus with head normal, enlarged or deformed; (2) an abnormal pelvis, contracted, rachitic, kyphotic, justo-minor; (3) a broad shouldered fetus in an abnormal pelvis, neither excessive; (4) impacted shoulders in breech cases; (5) threatening eclampsia or uterine rupture, or other cause for immediate delivery. In all these applications of cleidotomy it is usually a procedure secondary to destruction of the head, and carried out upon a dead child, although not absolutely essentially. As a substitute for indiscriminate embryulcia it serves an excellent purpose on account of ease, elegance and efficiency.

H. T. BEWLEY, at the Royal Academy of Medicine in Ireland, November 2, 1900, showed the brain of a thirty-three-year-old woman, who in May, 1897, suffered from an attack of apoplexy with unconsciousness, slight temporary paralysis of the lower right half of the face, and aphasia. The difficulty with the speech improved but never entirely disappeared. Nine months later, still aphasic, the patient died of tuberculosis of the lungs. At the autopsy an old hemorrhage was found near the left island of Reil, destroying the grey and some of the white matter of the convolutions of the insula. A small cavity occupied the place of these convolutions, and about it was much yellowish substance abundant in granules of hematoidin. The exact site of this hemorrhage appeared entirely bounded by the convolutions of the island of Reil.

A. C. O'SULLIVAN gave the bacteriological details of an abscess of the scalp involving the frontal, both parietal, and both temporal bones. streptococcus pyogenes and staphylococcus pyogenes albus and aureus were abundant. The streptococci were exceedingly virulent, as 1 c. c. of broth culture injected intraperitoneally into a rabbit and subcutaneously into a guinea pig caused death in about twelve hours. The staphylococci were innocuous in mice and guinea-pigs.

PROFESSOR BENNETT added that this same patient had shown a combination of rachitis, and disseminated tuberculosis, a clinical curiosity. The child suffered from early rickets, and when six or seven years old the tuberculosis supervened. Over the left temporal fossa had been a tuberculous abscess, like many others elsewhere in the body. He had the ordinary signs of a tuberculous meningitis in children. The question then came up whether the temporal abscess should not be evacuated and the dead bone, palpable though not detached, removed. If this had been done only a small piece of dead bone would have been found, and that was free of tubercles. PROFESSOR MCWEENEY said it was a pity, for the sake of diagnosis, that no animals had been inoculated directly from these abscesses. It is so difficult to recover the tubercle bacillus from all exudates and transudates, that he felt that animal inoculation is the surest diagnostic test.

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T. R. BRADSHAW (Liverpool), at the Royal Medical and Chirurgical Society of London, November 27, 1900, described the case of a man with dilatation of the stomach who had taken large quantities of magnesium carbonate. The urine was abundant in sediment, apparently not described, and in fine sheaf-like acicular crystals of monohydric magnesium phosphate.

T. SMITH read a paper on the possibilities of improving the method of operating on the bladder for calculi and new growths. In view of the increased diminished risk of interference with the peritoneal cavity, he considered it possible, in selected cases, where the desideratum is the immediate union of the bladder wound, to make the operation intraperitoneal, and thereby avail one's self of the rapidity with which opposed layers of this serosa unite. C. LUCAS said in the discussion that the bladder is so prone to be septic, in these conditions, and even to become so after the operation, that any intraperitoneal approach will be highly hazardous because the mucous, fibrous, and muscular elements of the bladder-wall will suffer less in degree and extent than the serous. FOYER considered the very ease and directness of suprapubic lithotomy its dangers, because the operation is often done when lateral lithotomy or lithopaxy would be more safe. Statistics give twenty per cent. mortality for the suprapubic route, and only five per cent. for each of the other means. One special danger in an intraperitoneal attack upon the bladder lies in the necessity for copious irrigation, which, in spite of caution, is very prone to wash septic matter into the peritoneal cavity. C. HEATH pointed out that complete rest for the bladder, and open avenue for the direct application of medication, are gained by allowing the vesical incision to close by granulation. This fact alone would controvert the claims of the paper. A. BARKER said the dangers of sepsis had been much exaggerated. A good preliminary treatment with irrigation would render the bladder quite clean, just as in the case of the stomach. Compared with the recent changes and advances in gastric surgery he felt that an intraperitoneal vesical operation is not only possible, but also wise in certain cases. W. G. SPENCER quoted MILTON, of Cairo, who opened a bladder in this way for a large stone. Death followed later from other causes. No adhesions were found at autopsy.

W. G. SPENCER read a few notes on perineal urethrotomy and cystotomy through a superficial transverse incision, after the method of Celsus. The incision is convex anteriorly, extends from ischial tuberosity to tuberosity, and through the central point of the perineum, exposes both the arteries to the bulbous urethra and perineum (which are at once tied), and the external sphincter and rectum (which are freed and retracted backward away from the urethra bulb). The urethra is now carefully divided just in the mid-line, backward to the prostate, so that the neck of the bladder is reached without any tearing. Very rapid healing follows this procedure, urine passes by the penis in about two days, and ceases by the perineum in about seven days more. The edges of the wound tend to fall together when the legs are brought out of the lithotomy position. His cases included: (1) old urethral strictures which were widely divided mesially on the floor and roof, and the associated false passages were cleanly opened. Healing without fistula resulted, and the patients were taught to pass a large bougie themselves. (2) Calculi in contracted, hypertrophied, or sacculated bladders, unsuitable for suprapubic or lateral lithotomy were extracted freely in this way, and the cut urethra healed well, as no tearing was needed. (3) Lateral lobular prostatic enlargement, like a collar about the neck of the bladder, was easily cured by the cautery, or by actual excision. The preliminary ligation of the arteries kept the field clean and dry, retraction of the rectum protected it and enlarged the deep field, while a furrow cauterized in the prostate permitted good drainage of the postprostatic pouch.

S. PHILLIPS, at the Clinical Society of London, November 23, 1900, gave prominence to the following rarity: Maid-servant, nineteen years old, prolonged indigestion, sudden onset of symptoms of perforated gastric ulcer, slight temporary improvement under hospital treatment, followed by signs of thrombosis of the deep veins of the left leg, with later edema of the whole lower extremity, rigors and death about nine days afterward. The post-mortem examination showed recent soft thrombosis of the ascending vena cava, left common and external iliac and the left lower extremity veins. Extension of the thrombosis upward to the heart had caused death. The clotting had begun in the vena cava, and had spread up and down. In nature it was apparently *primary infective thrombosis.* Its initial resemblance to a perforated gastric ulcer was marked, and its most important clinical feature. This diagnosis was ruled out finally on physical signs, especially gastric distension. It was argued that in all cases of stomachic ulcer the distension of the stomach is a most potent index of the necessity for immediate operation. No microscopical report of the thrombus was at hand.

BLAND-SUTTON reported the removal of a large and wandering spleen from a woman already the mother of seven children, and at the time of the operation two months pregnant. No difficulties were encountered from any source. Eighteen months after the operation she showed no symptoms of abscess of the organ. This case constitutes the seventh healthy and living patient in whom splenectomy had caused no inconveniences. In reply to queries he stated that he now never operates in cases of leucocythemia, having had one death in a twenty-six-year-old woman, whose white corpuscles were twenty to one

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thousand red cells. For forty-eight hours she had done well, when with great abdominal distension, without signs of internal hemorrhage, she died. Furthermore, now, if the white cells are double their normal amount he refuses to interfere. Spleniculi he had never found, although he has examined for one in each case.

C. WILLIAMS had recently a patient, male, forty-three years old, primary syphilitic sore in December, 1896, secondaries in full development January 10, 1897. Mercury was exhibited chiefly with alternations of potassium iodide for eighteen months, when he ceased treatment, apparently cured. January, 1900, influenza attacked him, and April 14 what seemed to be post-influenzal intermittent fever appeared, four days later periosities were found on the right clavicle, and afternoon rise and morning fall of temperature were present. Syphilitic pyrexia was diagnosed. Under appropriate treatment the fever disappeared in seven days. At the present time the patient is well and fat. Literature shows that John Hunter recognized syphilitic fever, and many other cases are reported.

SOCIETY PROCEEDINGS.

CHICAGO PATHOLOGICAL SOCIETY.

Stated Meeting, Held November 12, 1900.

The President, Dr. Ludvig Hektoen, in the Chair.

Dr. D. N. Eisendrath demonstrated specimens as follows:

Adenoma of the Liver.—It was an accidental finding in an autopsy of a girl, twenty-one months old, who had been under the care of Dr. I. A. Abt in the Michael Réese Hospital from September 25, 1900, to October 12, the date of her death. Her clinical history was that of a typhoid fever with multiple gangrene. At the autopsy an area about the size of a hen's egg was found occupying the entire upper portion of the left lobe of the liver, causing a retraction or umbilication of the capsule over it. The sections made through this mass revealed a tumor sharply demarcated from the surrounding liver tissue, having a wavy outline with a slightly yellowish outer and a whitish, more fibrous inner portion. It was of firm consistency, and was at first regarded as a carcinoma. Microscopically the structure was seen to be that of an adenoma. The most striking features are the large size of the cells and the drops of fat which they contain. Whether to call this tumor an adenoma or simply a nodular hyperplasia is still an open question. Ziegler believes that they are true adenomata, although he thinks that there is no sharp line to be drawn between these and a nodular hyperplasia on the one hand and an adenosarcoma on the other. Orth states that there may be a true hyperplasia of the liver parenchyma, as where a large portion of a lobe has been destroyed by an abscess, syphilis or echinococcus. He has observed a distinct hyperplasia resembling an adenoma in granular atrophy and in a case of thrombosis of the hepatic vein. The same occurs in cirrhosis. The condition may be quite nodular and may be single or multiple, varying from a pea to a cherry in size. He believes that if such a condition is named an adenoma it would be better to call it hyperplastic to distinguish it from the tubular variety. In this latter form there are columns of cells, many having a distinct lumen. Both of these varieties may easily change into a carcinoma.

Diseases of Gall-Bladder and Infective Cholangitis.—The second specimens were from the same baby. The father was in the hospital with typhoid fever at the time of the baby's admission. The clinical course, previous history and frequently repeated Widal tests confirmed the diagnosis of typhoid fever. Death occurred Oct. 12, 1900. The portion of the autopsy to which special reference will be made is that of the liver and intestines. The latter showed a very marked swelling of the solitary follicles of the ileum and especially an appearance of Peyer's patches like that of the first week of typhoid in adults before ulceration has begun. The spleen was very much larger than normal, soft and pulpy. The liver was larger than in a child of this age; of a light brownish color and somewhat soft. Over the entire surface, irregularly scattered, was a large number of whitish areas with a red periphery about the size of the head of a pin. On section these were seen to be scattered uniformly through both lobes. In the left lobe was in addition the adenoma just described. Microscopically these areas are seen to be due to a necrosis of the parenchyma adjacent to the interlobular vessels. The liver cells in these are swollen, do not take the stain, and show all signs of cell death. Around each bile-duct near these necrotic areas there is a marked round-celled infiltration. There is a typical inflammation of the bile-passages (angiocholitis) or biliary hepatitis, as Ziegler calls it, with the resulting necrosis of liver cells. Cultures were made from the gall-bladder, liver and skin, but only in the latter were micro-organisms found (staphylococci). The necrosis is most typically shown in specimens stained with methylene blue or Bismarck brown. Such necrosis may be due either to stagnation of bile alone or this combined with infection. If to the latter, the micro-organisms most frequent as causal agents both clinically and in experimental investigations are the typhoid bacillus, the colon bacillus, the ordinary pus cocci, and the distoma hepaticum. Angiocholitis and such areas of necrosis have been produced experimentally by Netter, Homen, Roger and others with the colon bacillus. In this case of Dr. Abt the infection must unquestionably have been due to the typhoid bacillus which has been found in the gall-bladder and bile-ducts by Chiari and others. The subject of cholangitis and its relation to operations for gall-stones as a fatal complication is of the greatest interest.

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Cardiac Anomalies.—Dr. Hektoen showed two rare cardiac anomalies: (1) Congenital aorticopulmonary communication, and (2) communication between aorta and left ventricle under the anterior aortic valve which was attached at both ends. Both occurred in new-born infants in the service of Dr. Cotton in the Presbyterian Hospital of Chicago. The case of aorticopulmonary communication is probably the tenth recorded and the first in America. A review of the clinical course of these cases was given. The second case is the first of its kind observed. It was urged that both the anomalies resulted from developmental disturbances in the septum of the arterial bulb.

Sarcoma of Pancreas.—Dr. Maxmilian Herzog read this paper for Dr. Geo. A. Boye, of Baldwin, Kansas. The paper gave a critical review of the literature of the subject. The case which is added to the list of previously recorded instances of sarcoma of the pancreas occurred in the practice of Dr. M. L. Harris, and was posted by Dr. Herzog. The patient was a man forty-seven years old, with no particular family or personal history. The tumor first gave rise to marked symptoms about a year before death. The urine never contained any sugar, not even after a glucose test-meal. An exploratory laparotomy revealed an inoperable tumor of the pancreas. At the autopsy there was found a tumor irregularly quadrilateral having diameters of 17, 20 and 24 centimeters. This large new growth filled the whole abdomen and had formed adhesions to neighboring organs; it had, however, nowhere broken into neighboring organs, nor had it given rise to metastasis. The microscopic examination of the neoplasm shows it to consist of large spindle cells taking their origin from the adventitious coat of vessels. Large tracts of the tumor show marked retrograde, degenerative changes, and there are cystic cavities in the new growths. No normal pancreatic tissue could be found. The kidneys showed parenchymatous changes; the spleen chronic splenitis, and the liver slight cirrhotic changes.

Dr. Hektoen, in the discussion, referred to a case reported by him in Volume II. of the *Society's Transactions,* and to a second case of small round-celled sarcoma of the pancreas, weighing 3000 grams. observed by him.

Dr. M. L. Harris said that in the case reported in the paper, sugar was not present in the urine, nor were there any other signs of a disturbance of the pancreatic function.

Dr. J. B. Herrick suggested the possibility of the tumor cells having an action similar to normal pancreas cells.

Dr. Herzog, in closing the discussion, in answer to a question of Dr. Herrick, said that the question with reference to the absence of glycosuria and the pancreatic ferments is a very interesting one. He entertains a definite theory concerning the pancreatic ferments, believing that the pancreas furnishes a ferment which splits the sugar and forms from it alcohol and CO_2. The alcohol again in *statu nascendi* is changed by processes of oxidation into H_2O and CO_2. He is not in a position to prove this hypothesis. On examining the tumor pieces were taken from various places. Nowhere could any normal pancreatic tissue be found. These negative findings do not prove much, since there might be hid normal pancreatic tissues somewhere in this very large tumor.

Carcinoma of Sebacceous Glands of a Rat.—Dr. Leo Loeb demonstrated this specimen. The tumor had grown in a few months to the size of almost half the head of the rat. It was ulcerating. It grew again to its original size inside of a few weeks after partial removal. Microscopically one sees enormously large sebaceous glands, branching out into different directions. At some places the skin covers the glands. The newly-formed tissue takes after some time the appearance of sebaceous glands. At other places one sees deep in the connective tissue more or less changed, isolated sebaceous glands. They may form alveoli of spindle-shaped cells. Near the normal skin the ordinary sebaceous glands show epithelial processes, that is, perhaps beginning carcinomatous change. That was not a secondary union, because there were no other carcinomatous alveoli near them, but it may be a regenerative growth. That demonstrates (*a*) direct outgrowth of glands as the first change in carcinoma; (*b*) anaplasia of tumor cells is not a primary factor underlying carcinomatous change.

Lymphosarcomatosis in a Sheep.—This specimen, exhibited by Dr. Loeb, is probably the first case of lymphosarcomatosis reported in an animal. There were many non-hemorrhagic nodules of different size beneath the skin and the fascia. There were tumors in the thyroid gland, in the kidney and in the heart muscle. The reticular network was best seen in the skin tumors. At the margin of the advancing lymph-cells, between the tubules of the kidney, no reticulum was present. At other places small spindle-shaped cells were found among the lymph-cells. The latter showed many mitoses. In the thyroid many cysts, partially lined with epithelium, were separated by lymphoid tissue At some places the lymph-cells broke through the epithelial layer.

Cytological Studies.—Mitoses and cell-divisions in different stages in eggs of guinea-pigs' ovaries were shown by Dr. Loeb. Such observations have been made by Henneguy and Janosik. A large number of cells may be derived from one egg. One single cell situated in a mass of cells which originated by cleavage of one egg may show three or perhaps more nuclei. Nuclear division may therefore precede cell-division in rapidity. Atresic changes in the follicle take place at the same time. Large cells are made up; each one may be made up of as many as twenty of the degenerating small, follicular, epithelial cells. It could not yet with certainty be made out if these phagocytic cells are the deepest follicular cells or the connective-tissue cells of the theca interna. The latter can probably change in this way.

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NEW YORK ACADEMY OF MEDICINE—SECTION ON MEDICINE.

Stated Meeting, Held November 20, 1900.

John H. Huddleston, M.D., Chairman.

Early Recognition of Typhoid.—Dr. J. K. Crook said that the important diagnostic point for the general practitioner is the early recognition of disease and especially of such diseases as typhoid fever. No amount of care will absolutely guarantee against delay in recognition, because typhoid fever often begins with symptoms simulating some other disease. As in the case of the Czar of Russia, it may begin with influenza symptoms. In a recent case in the practice of Dr. Crook the beginning of the typhoid fever took on all the appearances of an ordinary lumbago. The early symptoms of typhoid may be considered to be those which occur from the inception of the disease until the fever reaches its fastigium, usually seven or eight days later. Not until the third day do any distinctive symptoms occur. The patient usually complains then of having felt below par for several days, of having had a headache, some shiveriness, some nausea which occasionally goes as far as vomiting, while indefinite pains occur in all parts of the body. Of these pains the most important is the headache which is an almost constant symptom and should arouse suspicion. Often at this period there will be a dry, disagreeable cough and frequent yawning spells. Often, too, the patient will complain of some looseness of the bowels. If perchance he has taken a cathartic, as will not infrequently be the case, this has acted with much more vigor than usual. His tongue will be dry, furry, somewhat coated, and his breath will usually be altered in odor.

Temperature.—Usually at this period, if the patient comes in the morning, no temperature will be noted. If he comes in the afternoon, one to two degrees of fever may be noted. Most important information can be obtained from the frequent use of a thermometer at this time. The patient should be instructed to take his temperature several times a day, and note for the information of the physician its height and the hour. Even at the third day variation in temperature sufficient to excite suspicion will always be found. Pressure upon the right iliac region at this time will often cause gurgling. This symptom is, however, not of much importance as it occurs always during diarrhea and will often be found in perfectly healthy individuals.

Fifth Day.—Usually at this time the patient will not feel well enough to leave his house. When asked to show his tongue it will be distinctly tremulous and there will be a tremor of the fingers when they are extended, or when they are employed to button garments, or to pick up small objects. At this time, too, distinct fever will always be found, usually as high as 101° sometimes running to 102° F. Meteorism will be found and tenderness can be elicited in the right iliac fossa, although there is no spontaneous pain. Upon careful percussion, the spleen will be found to be enlarged; the diarrhea will often be marked and in general little doubt of the character of the disease remains. If the affection occurs during the autumn it is now time to inaugurate a strict dietetic regime, such as is used in typhoid fever.

Seventh Day.—At this time there will be marked prostration. The patient will be glad to stay in bed, there will be less headache, perhaps, but the patient will be more apathetic, careless about business matters, and other interests and the signs of a serious illness will be easily recognizable. The pulse is soft and sometimes dicrotic. While the temperature will usually have taken the characteristic step-like rise of typhoid fever, anomalous febrile courses are not unusual. Any case may run a temperature quite apart from the regular typhoid fever course. At this time the spleen will be found to have still further increased in size and the absolutely pathognomic sign of the disease, the characteristic eruption, will be found in most cases if carefully looked for. This consists of rose spots, slightly elevated, which disappear on pressure. They may occur anywhere on the body, though their usual situation is the vicinity of the umbilicus. The spots should be looked for on the back and buttocks; occasionally they will be found on the limbs. Two or three are as significant as two or three dozen. At this time an examination of the urine will show the presence of Ehrlich's diazo-reaction. Dr. Crook has never missed it at about the seventh day. This reaction, though considered pathognomic at one time, is not so, but occurs in measles and also in pthisis florida.

Widal Reaction.—This is, of course, our best method of diagnosticating typhoid fever. Unfortunately, it does not occur at times until rather late in the disease. It occurs in practically all cases, however, and when it does occur it is positively significant.

Possibilities of Early Diagnosis.—We may say, then, that typhoid fever should at least be suspected on the third day. It can be diagnosed with reasonable assurance on the fifth day, provided all the possible sources of information are thoroughly investigated. There should, as a rule, be no room left for doubt on the seventh day if all the means which modern diagnosis have put at our command are made to furnish their full quota of information.

Home Bathing in Typhoid.—Dr. Simon Baruch described certain hydropathic methods by means of which patients suffering from typhoid can be treated for pyrexia without the necessity for a bathtub. He insisted that cold water, besides mechanically reducing the temperature by actual abstraction of heat, stimulates the circulation. This second purpose, however, of cold applications is only accomplished if friction accompanies the use of cold. The presence of the toxins of typhoid fever in the circulation relaxes

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the arterioles all over the circulation and so makes harder work for the heart. The application of cold then helps the circulation by toning the arterioles, thus making the blood paths narrower and the heart's pumping easier. Clinically this result can be observed by the disappearance of cyanotic conditions after the bath. Typhoid patients always look better after the bath; when they do not it is because some element in the technic has been neglected. The effect of the bath on the kidneys is like a summer shower on the parched plants at the end of a heated spell. Toxic materials have gathered as sources of irritation, just as dust gathers on the leaves of the plants, and when the circulation is toned up the narrowing of the lumen of the capillaries in the kidney sends the blood more rapidly through them, flushing them out and making diuresis more complete and efficient.

Reaction After the Bathing.—Reaction must follow cold bathing always, or the purpose of the bath is rendered abortive. We might think that emphasis need not be placed on this point in our day. Consultation of some of the text-books, however, shows what mistaken notions may be conveyed by ill-given directions. Lauder Brunton, the distinguished English therapeutist, in his text-book of therapeutics, edition of 1898, says that when the patient's temperature reaches a certain point he should be placed in the bath and left there until his temperature comes down. When he is first put in the temperature of the water should be about 65° F. and this may be reduced by additions of colder water or ice to 40° F. It is no wonder that he concludes his directions with the advice to remove the patient from the bath before his temperature becomes quite normal, because it may sink still lower after the patient is put to bed and symptoms of collapse may ensue. The main purpose of the bathing is neglected if these directions are followed and no friction is employed during the bath. No wonder under such circumstances that the bath should prove an unpopular remedy.

Cold Coil.—The use of rubber tubing through which cold water is allowed to flow is usually a mistake. It does produce local lowering of the temperature, but absolutely without any compensatory stimulation. After its application the skin will be found blue and pallid. For nearly the same reason sponge-baths, as they are usually given, are objectionable. The application of cold water in this way does lower the temperature, but it fails to produce any other good effect. Remedies for fever, it should be borne in mind, must be antifebrile as well as antipyretic. Antifebrile therapeusis modifies all of the symptoms produced by the fever, especially the relaxation and tendency to exhaustion. Antipyretics only reduce the temperature, but without affecting other symptoms of the fever. Above all, remedies must encourage the elimination of toxins from the circulation. This is best accomplished by general stimulation that makes every organ do its work better and so arouses the reactive vitality.

Cold Rubbing.—Patients whose temperatures are above 102.5° F. should be rubbed with a wash-cloth wrung out in cold water. As soon as the patient shows any signs of chilliness that are not relieved by the friction, the rubbing should cease. When his temperature reaches the same point as before, water five degrees colder in temperature should be employed and more friction exercised. After this a compress wrung out in cool water may be placed over the abdomen. This should be carefully covered with flannel and its application overseen with the greatest care and, as a rule, not left to an inexperienced person. If the patient's temperature reaches 103° F., or if nervous symptoms occur, a towel-bath may be given, the patient being covered with a towel over which cupfuls of cool water are poured, each cupful being well rubbed in, the important thing is to act quickly and stop when the teeth begin to chatter.

Ice-Rubbing.—When the patient's temperature remains persistently high and bathing facilities are not at hand, the patient may be rubbed with a smooth piece of ice. Each rubbing with ice is followed by a hand-rubbing until the part glows. Thus successive parts of the body are cooled and rubbed up.

Cool Water Drinking.—It is important that plenty of cool water should be given to the patient during the course of the fever. Four to six ounces of water at a temperature of forty degrees may be given whenever desired and, if water is not craved, a regular system of giving draughts of water at certain times should be established. If the system of rubbing and internal administration of cool water be faithfully and regularly kept up, tubs are often unnecessary even in severe cases. Under this method of treatment it is especially noteworthy that the amount of urine increases very satisfactorily and nephritic symptoms disappear. This system of rubbing is especially of benefit when baths are contra-indicated, as in pneumonia or tendencies to hemorrhage.

Giaourdi, a New Milk Food.—Dr. Achilles Rose described and presented samples of this sterilized, fermented milk preparation which is used very extensively in Greece as a popular article of diet and has been found to be of value in the treatment of typhoid fever and gastric ulcer. The ferment used in the preparation of the new food is obtained from dried figs. The food itself is a very pleasant, acid, gelatinous substance not unlike thick milk, but of more consistency and less acidity. Dr. Rose has found it an excellent addition to the diet for certain patients with whom milk did not agree and to whom matzoon and kumyss were distasteful. Giaourdi is not a proprietary article. It can be rather easily prepared. Practically all the Greeks in the city know how to make it by tradi-

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tion, and it promises to form a useful adjunct in dietetic therapeutics.

In the discussion Dr. E. Quintard said that he had found giaourdi very useful in certain stomachic affections, notably stenosis of the pylorus with very little stomachic digestion, the so-called ischochymia. In patients in whom curdled milk would not pass the pylorus, this new food preparation proved an important article of diet. In neurasthenia with stomachic symptoms and the capricious appetite which often accompanies this condition, giaourdi also proves useful. In a recent case of myasthenia gastrica, in which kumyss proved only a disturber of digestion, the new food preparation was well borne.

Dr. Loewenstein said that she had examined specimens of giaourdi in order to determine the character of the fermentation it had undergone. No alcohol could be found in the sample submitted and the changes induced in the milk were evidently due to some other than the alcoholic fermentation. A certain amount of rennet is used in the preparation of the new food and it is thought that possibly this is the only active agent present. The addition of dried figs, however, to milk causes a delicate curdling which shows that there is a labferment contained in figs. Dr. Loewenstein was reminded of the fact that while traveling several years ago in Switzerland she talked with an Alpine peasant who was said to have a secret for the manufacture of cheese. His cheese was famous throughout all the country. He confided to her that he used in addition to rennet a watery solution of figs for the coagulation of the milk. This made his cheese taste better and gave it a special market value. The curdling produced by the fig ferment is very delicate. Doubtless this addition of figs to the milk counteracts a certain tendency to constipation which most milk foods occasion.

Milk-Food Preparations.—Dr. Einhorn said that any new milk food is a welcome addition to dietetic therapeutics. Milk as practically an exclusive article of diet must be used so frequently that any possible variety in its taste is a valuable aid if the nutritive value of the milk is not interfered with. Thick (sour) milk constitutes a valuable article of food of which sufficient use is not made by the modern physician. Dr. Einhorn has tasted, in Russia particularly, samples of thick milk that resembled very much this food presented by Dr. Rose. The thick milk, especially when served with cream and a little sugar, forms a very pleasant and, needless to say, an extremely valuable article of food. This requires no special preparation and keeps well unsterilized for a week to ten days. In Russia cheese is made by allowing jars to stand for a week and then removing the cream and using the curdled milk beneath for the cheese. Dr. Loewenstein said that the preparation presented by Dr. Rose is very different from mere curdled milk, because even boiled milk curdles on the addition of the labferment from the figs.

In closing the discussion, Dr. Rose said that clinically this preparation differs very much from sour milk, because it will be found to agree with many patients to whom the slightest amount of lactic acid causes digestive disturbance. Moreover boiling the milk before giaourdi is prepared sterilizes it, at least as far as pathogenic germs are concerned, and adds another element to the desirability of this new food as an addition to the dietary of invalids whose resistive vitality is often notably lowered.

Typhoid Treatment in the New York Hospital.—Dr. Frederick L. Keays read a paper with this title (see MEDICAL NEWS, p. 937).

Gastric Ulcer and Mucomembranous Colitis at the Paris Congress.—Dr. James J. Walsh then read a paper on this subject. It will appear in a subsequent issue of the MEDICAL NEWS.

Gastric Ulcer and Gastric Juice.—In the discussion Dr. Einhorn said that gastric ulcer is not due alone to the presence of gastric juice. Ulcers of the stomach have sometimes been demonstrated clinically and at autopsy in patients in whom there was an entire absence of gastric secretion. In one case an ulcer was found where there had been no gastric secretion for over two years. The fact that the typical conical ulcer occurs only in the stomach itself, in the duodenum and in the lower part of the esophagus, points to the fact that the gastric juice is an important element in the etiology of gastric ulcer, but it is not the only one.

Operations for Gastric Ulcer.—With regard to surgical intervention for gastric ulcer, Dr. Einhorn is of the opinion that this branch of surgery may easily be overdone. He hesitates as yet to counsel an operation unless the case is an extreme one. Profuse hemorrhage alone can scarcely justify resort to surgical measures. Over 75 per cent. of patients who suffer from profuse hemorrhage get entirely well on ordinary medical treatment. The mortality of operations upon the stomach is over 20 per cent. so that practically nothing is gained in additional safety for the patient by recourse to surgery. The decision in such cases is a most difficult one. The appeal to the occurrence of contractions of the stomach after the cure of ulcer as a reason for early operation seems far-fetched. Dr. Einhorn does not think that operations should be done for pyloric stenosis until the gastric equilibrium is seriously disturbed by gastric retention.

The Mucomembranous Colitis.—Dr. Einhorn considers that this affection is essentially nervous in character. It has been said that the very name adopted for it, colitis or inflammation of the colon, shows that authorities are agreed that there is a pathological inflammatory condition as its basis. The name was adopted, however, before the true nature of the disease was suspected and has been retained in order not to in-

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troduce confusion by changes of terminology before some general agreement as to the proper name for the affection could be entered upon.

Hyperacidity and Gastric Ulcer.—Dr. F. F. Ward said that he has never been quite able to make up his mind as to whether the gastric hyperacidity which occurs so commonly with gastric ulcer is a cause or effect of that lesion. The presence of the ulcer certainly causes an irritative condition of the secretory glands of the gastric mucous membrane. This leads to hyperacidity. Whether this hyperacidity exists before the development of the ulcer causes it and then renders it chronic by a sort of vicious circle, remains to be investigated.

An Anomalous Case.—Dr. Ward gave the details of a recent case under his care in which the symptoms of gastric ulcer proved obstinate to all treatment. An operation was performed and to the surprise of all concerned a distinct tumor was found in the pyloric region. The patient was in no condition for an extensive resection of his stomach so that a gastro-enterostomy was done in the hope that his nutrition would improve as a consequence. After this operation he rapidly gained in weight. At the end of six weeks he was in such good general condition that another operation with the idea of removing the tumor was undertaken. No tumor was found. Afterward the man continued to gain in weight and strength and had absolutely no recurrence of his gastric symptoms for over six months. Then the symptoms of his original ailment recurred. Hyperacidity was noted and afterward achylia gastrica developed. Lavage was practised and gave considerable relief from the symptoms. He came one evening suffering from severe distress in the epigastric region. Lavage would have been practised but for lack of time. The pains continued and became so severe during the night that a surgeon was called in. He performed an operation and found a perforation of the stomach. The patient died from septic peritonitis and the stomach was found adherent to the abdominal walls while in the scar a large malignant growth had developed. It was through the cancerous tissue that the ulcerative perforation had taken place.

Minute Gastric Ulcers.—Dr. E. Quintard called attention to the fact that Dieulafoy had described certain cases in which there occurred tremendous hemorrhage from the stomach that proved obstinate to all treatment. At autopsy no lesion of the mucous membrane of the stomach could be found to account for the hemorrhage. When the gastric mucous membrane was carefully gone over with a magnifying glass a tiny erosion was found which had eaten its way into the side of one of the smaller gastric arteries. As the artery had not been completely cut through the normal mechanism for the prevention of hemorrhage by contraction of the arterial coat failed of accomplishing and the hemorrhage continued. The only way by which the hemorrhage could be stopped was by clotting at the point of erosion. Owing to the movements of the stomach, especially the vomiting, this is difficult and so the hemorrhage continued. In one of these cases absolutely no arterial sclerosis was found and there was no sclerosis of the liver; the patient suffered from a certain amount of alcoholic gastritis. It is probable that some of the so-called nervous hemorrhages from the stomach, that is, hemorrhages without any pathological lesion of the gastric mucous membrane, are really cases of this form of very minute erosion into a blood-vessel, the erosion escaping notice in the ordinary macroscopic examination of the mucous surface.

BOOKS RECEIVED.

THE PRACTICE OF MEDICINE. By Dr. James Tyson. Second Edition. 8vo, 1220 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia.

PROGRESSIVE MEDICINE. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Dr. Hobart Amory Hare. Vol. IV., Dec., 1900. Lea Brothers & Co., Philadelphia and New York.

A PRACTICAL TREATISE ON MATERIA MEDICA AND THERAPEUTICS. By Dr. John V. Snoemaker. Fifth Edition. 8vo, 766 pages. F. A. Davis Company, Publishers, Philadelphia, New York, Chicago.

A COMPEND OF DISEASES OF THE SKIN. By Dr. Jay F. Schamberg. Second Edition, Revised and Enlarged. P. Blakiston's Son & Co., Philadelphia.

A TEXT-BOOK OF HISTOLOGY. Including Microscopic Technic. By Drs. A. A. Böhm and M. von Davidoff. Translated by Dr. H. H. Cushing. Edited by Dr. G. Carl Huber. 8vo, 501 pages. Illustrated. W. B. Saunders & Company, Philadelphia and London.

GUY'S HOSPITAL REPORTS. Edited by Drs. E. C. Perry and W. H. A. Jacobson. Vol. LIV. J. & A. Churchill, London.

A MANUAL OF HYGIENE AND SANITATION. By Dr. S. Egbert. Second Edition. 12mo, 435 pages. Illustrated. Lea Brothers & Co., Philadelphia and New York. $2.25.

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REPORT OF THE SURGEON-GENERAL, U. S. NAVY, Chief of the Bureau of Medicine and Surgery, to the Secretary of the Navy. 1900. Washington.

AETILOGIE UND PROPHYLAXE DER LUNGENTUBERKULOSE. Von Dr. J. Ruhemann. 8vo, 88 pages. Illustrated. Gustav Fischer, Jena.

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DIE PATHOLOGISCHE ANATOMIE IM 19. JAHRHUNDERT UND IHR EINFLUSS AUF DIE AEUSSERE MEDIZIN. Dr. H. Chiari. 8vo, 16 pages. Gustav Fischer, Jena.

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TEXT-BOOK OF THE EMBRYOLOGY OF INVERTEBRATES. By Dr. E. Korschelt and K. Heider. Translated by Matilda Barnard. Revised by Martin F. Woodward. Vol. IV. 8vo, 505 pages. Illustrated. The Macmillan Co., New York. $4.00.

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THE MEDICAL NEWS.

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ORIGINAL ARTICLES

SPLENIC ANEMIA—ANEMIA WITH ENLARGEMENT OF THE SPLEEN.*

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THE occurrence of a symptom-complex characterized especially by grave and progressive anemia and enlargement of the spleen, but unassociated with leucocytosis or enlargement of the lymphatic glands, has been recognized for a long time. The first undoubted case of this nature was probably described by Woillez,[1] in 1856. A case of a similar affection in a child, aged ten months, was reported in 1866 by Gretzel[2] from Griesinger's clinic. The attention of the profession in this country was first directed to the subject in 1871 by H. C. Wood,[3] who described the disorder as the splenic form of pseudoleucemia. To Banti,[4] in particular, however, is due the credit of having directed renewed attention to the occurrence of the disease in 1883; and to the recent publication of more exhaustive articles by Bruhl,[5] West,[6] Sippy,[7] and Osler[8] is attributable the fact that the profession is now tolerably familiar with the chief clinical characteristics of the disorder.

This symptom-complex of progressive anemia with enlargement of the spleen has been described under a variety of names, such as splenic cachexia, splenic anemia (Griesinger and Banti), primitive splenomegaly (Debove[9] and Bruhl), idiopathic hypertrophy of the spleen without leucocythemia (Gaucher[10]), and the like. The designation splenic anemia has been employed by most of the recent writers on the subject, such as West, Taylor,[11] Coles,[12] Osler, Morse,[13] Jackson,[14] Stengel,[15] and others. The majority of these authors, however, have adopted splenic anemia as a convenient temporary designation to indicate the principal clinical features of a morbid condition the nature of which is not understood, and concerning the independent existence of which, as a clinical entity, considerable doubt has been expressed. On the other hand, Sippy who, recently reporting a personal observation, contributed also a most thorough review of the literature of the subject prefers the designation splenic pseudoleucemia, as does also Cabot.[16] Inasmuch, then, as the nature of the disease is little understood, and as the number of reported cases is small, it may not be unprofitable to add another. My case is as follows:

M. E. K., single, white, female, aged twenty-two years, and a native of the United States, was first seen by me in private practice, February 2, 1900. The following history was elicited: Her father died in middle-life after an operation for the cure of an ischiorectal abscess. He was in good health until one year prior to his death, when he suffered from a disorder of the ischiorectal region. Under medicinal treatment he recovered and resumed work. In a short time he was again attacked, was compelled to submit to operation, and died soon afterward. The patient's mother is living and well. Of seven brothers and sisters, one brother died following an operation for the cure of appendicitis, and five others died of causes not ascertainable. One brother is living and well. Aside from the fatal affection of the father, there was no history of tuberculosis, carcinoma, or other serious complaint in the family.

The patient herself during childhood had measles, chicken-pox, pertussis and pneumonia, the last named at the age of seven years. After this illness she remained in good health until she was seventeen years of age, when she contracted acute inflammatory rheumatism. The joint lesions were migratory and most of the larger joints were more or less involved. After about six weeks she made a good recovery, but subsequently she had several minor attacks. Menstruating first at the age of fifteen years, her periods were always regular and painless until January, 1900. The flow usually lasted three or four days and was generally rather profuse. She has always lived in Philadelphia and has never had malaria.

The patient, though never robust, remained in good health, working steadily as a clerk until May 13, 1899, when she was compelled to cease work. For about a week prior to this date she had been feeling badly—complaining of a cold. She was tired, somnolent and weak; the slightest exertion exhausted her and her appetite failed. Despite intermittent medical attention, she remained in about this condition throughout the summer of 1899, but during the fall she improved a little. Toward the end of the summer she sustained a fall. To the effects of this was attributed a rather severe pain in the left side in the region of the spleen that came on for the first time during September and continued for several weeks. A number of minor attacks of pain in the same region occurred at intervals subsequently and were the cause of great anxiety on the part of the patient and her mother. Toward Christmas, 1899, the patient's general health grew worse; palpitation of the heart and dyspnea supervened, both were much aggravated on exertion, and the patient was obliged to take to bed. A few days later there developed an attack

*Read before the Section on General Medicine of the College of Physicians of Philadelphia, October 8, 1900.

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of what was said to have been rheumatism in the right hip. The pain and tenderness on motion of the joint continued for about five weeks. In January, 1900, there occurred suddenly a severe hemorrhage from the genitals, it being reported that at least a quart of blood was lost. The bleeding did not continue more than twenty-four hours, and the patient menstruated regularly at the end of a week. Aside from this there had been no hemorrhages whatever—no nose-bleed, no expectoration nor vomiting of blood, no passage of blood by the bowel and no suspicious alterations in the urine.

At the time of first observation the patient complained of extreme asthenia, palpitation of the heart, dyspnea, lack of appetite, some epigastric distress after eating, and marked constipation. The dyspnea was more or less constant and was much aggravated by any exertion, talking for instance. In addition, she had now and then slight headache and some vertigo. She had been continuously in bed since Christmas, and she was quite irritable, nervous, and impatient at her slow recovery (I being her third physician). The pain in the right hip was almost entirely gone.

Examination showed the patient to be a slight, fragile, poorly-developed girl, with slender, bony framework, and soft, flabby musculature. Though the patient had never been very robust nor rotund there was evident a moderate degree of emaciation. The skin and visible mucous membranes were quite pale, but the latter were not pigmented. However, the skin, particularly that of the backs of the hands, forearms, and chest revealed a number of mole-like spots of pigmentation. These varied somewhat in size, the average size being about that of a split pea; they were quite dark, circumscribed, not elevated, and contained no excess of hairs. The patient thought that she had had most of them as long as she could remember, but she was inclined to believe, possibly upon suggestion, that they had become more numerous since her first attack of rheumatism at the age of seventeen years. There was no diffuse pigmentation; neither was there any cyanosis, edema, enlargement of the superficial lymphatic glands or tenderness over the sternum or along any of the long bones. The neck was long and thin and revealed pulsation of the veins on both sides. These were more marked on the right side and were evidently false venous pulsations transmitted from the underlying arteries. The chest was comparatively long, of poor anteroposterior diameter, and narrow. Physical exploration of the lungs showed them to be normal. The apex beat of the heart was in the fifth interspace just within the nipple line. No thrill was palpable. The superficial cardiac dulness was irregularly triangular in outline. It extended upward to the top of the fourth rib where it joined the sternum; to the right, just a trifle to the right of the left edge of the sternum; and, to the left, to the position of the apex beat. The heart's action was regular and the sounds were normal. Toward the base of the heart, however, there was faintly audible a blowing systolic murmur. This seemed to have its point of maximum intensity toward the pulmonary region, but it could be heard also over the fourth rib midway between the sternum and the nipple. The pulmonary second sound of the heart was short and valvular, but considering the thinness of the chest wall, it did not seem unduly accentuated. The liver dulness extended in the nipple line from the top of the sixth rib to the free margin of the ribs; the organ itself was not palpable. The splenic dulness extended in the midaxillary line from the eighth interspace to two fingers' breadth below the free margin of the ribs and anteriorly about the same distance beyond the ribs. The organ was distinctly palpable. It was hard and regular in outline, and the notch could be distinctly made out. The region was slightly tender to palpation. Examination of the abdomen was otherwise negative; in particular, there was no ascites. The patient's temperature was 103.5° F.; her pulse-rate 100—the pulse itself soft and compressible; and her respirations were 24 per minute. Inquiry at this time elicited the fact that she had had fever for six weeks (the time during which she had been in bed). I subsequently learned from the physician who had been in attendance prior to me that she had had fever, varying from 102° to 103° F. and over, and enlarged spleen for four weeks (the time during which he had been in attendance).

The patient's urine was examined February 4th, with the following result: Specific gravity 1017, acid in reaction, no albumin and no sugar; microscopically there were no casts but a considerable deposit of urates. Examination of the genitals failed to reveal any pathologic condition.

She was advised to remain in bed and was encouraged to drink largely of milk which she had previously absolutely refused. Constipation, which had been obstinate, was gradually overcome by cascara sagrada, salines, and enemas when necessary. Later, when the dietary was increased, fruits subserved the same purpose. She was given tincture of nux vomica, fifteen drops three times a day. Her blood was examined February 14th with the following result: Hemoglobin 50 per cent., erythrocytes 3,200,000, leucocytes 8200, color index of the erythrocytes 0.78. The erythrocytes were pale, but no abnormal forms were seen. Differential count of the leucocytes revealed the following: Small mononuclears 13 per cent., large mononuclears 7 per cent., transitionals 3 per cent., polynuclear neutrophiles 75 per cent., and eosinophiles 2 per cent. At the end of three weeks the constipation was finally overcome and did not recur. The bowels were moved once daily until about April 15th, when diarrhea set in. This was of moderate severity and entirely independent of any discoverable cause. It persisted for several days and then ceased. Later,

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however, there occurred a number of other attacks of varying severity. Although it had been learned from the physician previously in attendance that five drops of Fowler's solution had been followed by manifestations of intolerance, it was determined on February 24th to try this again, and it was commenced in three-drop doses three times a day. At the same time Blaud's pills also were given—five grains three times a day. The nux vomica was continued. One week later the dose of Fowler's solution was increased one drop three times a day every four days, and a raw egg and a half ounce of Sherry wine were added to a glass of milk twice a day. Blaud's pills were increased to ten grains three times a day.

By April 1st her general condition had improved materially; but on this date she contracted an attack of acute articular rheumatism in the right wrist; there was also a little pain and tenderness in the left ankle, but no swelling. The attack subsided under salicylates in about eight days. From the first time that I saw the patient until the day of the onset of the attack of rheumatism, her fever had always been 102° to 103° or 103.5° F., in the evening. On two occasions it was 104° F. It was not increased during the attack of rheumatism. After the subsidence of the latter Fowler's solution and Blaud's pills, which had been temporarily withheld, were resumed. During the last week in April she suddenly at night suffered a most acute pain in the region of the spleen, accompanied by marked prostration, almost collapse. The region of the spleen was excessively tender and the spleen itself seemed to have increased a little in size—it extended beyond the free margin of the ribs almost if not quite three fingers' breadth. Over the spleen a friction fremitus was slightly palpable and distinctly audible. It was much augmented, as was also the pain, by rapid and deep respirations. At the end of four days she had recovered her former fair general condition, but the tenderness in the region of the spleen persisted for a couple of weeks. Later there occurred a number of similar attacks of pain in this region, but none of the severity of the one just mentioned. They were interpreted as attacks of perisplenitis. By May 15th she was taking 10 drops of Fowler's solution three times a day without manifestations of intolerance, and she had so far improved as to be able to get out of bed. This she was encouraged to do, as well as to drink liberally of milk and to partake of a more extended diet, including meat. This she rather objected to, but with encouragement she managed to take a little meat at least once in four or five days of every week. Sweatings, which on a number of occasions during the latter part of March and the whole of April had been profuse, ceased almost entirely. At this time (May 15th) examination of her blood revealed the following: Hemoglobin 60 per cent., erythrocytes 3,800,000, leucocytes 6700, color-index of the erythrocytes 0.78. The red corpuscles were pale, but no abnormal forms were detected. The differential count of the leucocytes was as follows: Small mononuclears 19 per cent., large mononuclears 6 per cent., transitionals 4 per cent., polynuclear neutrophiles 70 per cent., and eosinophiles 1 per cent. During the third week in May the patient surprised us by going downstairs by herself unannounced. Fever had continued and ranged between 100° and 103° F.; on several occasions it reached 104° F. On one or two occasions it was but 99° F. in the late afternoon. While she was not advised to go downstairs, she was permitted to do so on several occasions, and twice she rode in the park in a carriage. She was rather encouraged to go from her bed-room to an adjoining room and to sit in the sunshine as much as possible. Her condition at this time, while not reassuring, was satisfactory. So much so that the question of operative intervention for the removal of the spleen, a subject which had been broached before, was again presented to the patient and her mother. Its possibilities and dangers were adequately explained. In view, however, of the unfortunate outcome of operative work on the persons of the father and son, removal of the spleen, which was not urged by me, was positively declined. Toward the end of May the general condition of the patient began to grow worse, and by the first week in June it became apparent that the fatal termination was but a question of a short time. Her weakness grew manifestly worse, as did also her breathlessness and palpitation of the heart. Indeed, the dyspnea was such an obtrusive symptom of the disease that, together with the increasing anemia and enlargement of the spleen, it may be said to have dominated the clinical picture. Her appetite became capricious and varied considerably. Attacks of diarrhea, which of late had become more frequent, now became also more severe and protracted. Examination of the blood revealed the following: Hemoglobin 33 per cent., erythrocytes 3,070,000, leucocytes 6300, color-index of erythrocytes 0.54. The erythrocytes were quite pale, many of them exceedingly so; there was considerable variation in their size, and a few of them were more or less distorted. In an examination of seven cover-slip preparations two erythroblasts (normoblasts) were seen; one of them had a double nucleus. The differential count of the leucocytes was as follows: Small mononuclears 7 per cent., large mononuclears 5 per cent., transitionals 2 per cent., polynuclear neutrophiles 85 per cent., and eosinophiles 1 per cent. With continued fever, increasing pallor and exhaustion, dyspnea and palpitation of the heart, both of which latter became much aggravated in paroxysms at night, the patient finally died June 19, 1900. With the single exception that the systolic murmur over the body of the heart had become louder, the physical signs had not varied appreciably from those already noted. The urine had remained as already stated. The blood condition had evidently become worse,

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but another examination was not made. A necropsy was not permitted.

The establishment of the diagnosis in the case presented certain features of interest. It is reported that the physician first in attendance was inclined to the diagnosis of typhoid fever. There can be little question that in the early days of the patient's illness in bed this was not altogether an unpardonable mistake. The physician second in attendance, as the case progressed, became more and more inclined to the diagnosis of splenic anemia, and by the time I was in attendance the supposition of typhoid fever could be no longer entertained. It is interesting in passing to note that during January the patient's blood yielded a positive Gruber-Widal reaction by the dried-blood method and a dilution approximating 1 to 10. With higher dilutions, however, the response was negative. On two subsequent occasions the reaction was negative with dilutions approximating 1 to 10 as well as with higher dilutions.

It was a matter of comparative ease to exclude certain diseases associated with enlargement of the spleen, such, for instance, as echinococcus disease, tumor formation, amyloid disease, malaria, and cirrhosis of the liver. The enlargement of the spleen being uniform and firm was not of the variety we usually associate with echinococcus disease and tumor formation, and the course of the affection, as well as the general symptoms, readily served to exclude both of these affections. There was no cause for amyloid disease, neither were there any of the clinical manifestations of amyloid disease of any of the other organs. There was no history of past malaria, nor any evidence of present malaria. There was no ascites or other evidence of cirrhosis of the liver. Nor was there warrant for the supposition of the existence of Banti's disease—enlarged spleen, anemia, and cirrhosis of the liver. In regard to this affection described under his name, Banti admits the possibility of it being a late stage of splenic anemia, but he states that there is proof neither for or against such a supposition. He thinks that the two diseases may be distinct from the fact that in the late stage of splenic anemia, even if long continued, there occurs no macroscopic evidence of cirrhosis of the liver, whereas in his affection, splenomegaly with liver cirrhosis, the alterations in the liver are always present even if the disorder be of short duration.

From the first the disease impressed me as being either splenic anemia, splenomedullary leucemia, or some form of sepsis, more particularly ulcerative endocarditis. It seemed necessary, however, to exclude also passive congestive enlargement of the spleen and pernicious anemia. It was all the more important to exclude enlargement of the spleen, the result of passive congestion, because the patient had had several attacks of acute articular rheumatism, and because she presented a systolic murmur and the physical signs of enlargement of the heart. Aside from the dyspnea and palpitation of the heart on exertion the patient exhibited no signs of failing cardiac compensation. There was anemia rather than cyanosis of the skin and visible mucous membranes, there was no edema, and there were no evidences of congestion of the liver, kidneys, or lungs. The murmur was hardly of the character of that usually heard in mitral incompetency nor was its point of maximum intensity at or near the apex. It was borne in mind, however, that the murmur of mitral incompetency is sometimes heard best toward the pulmonary region. As further tending to disprove the existence of a lesion of the mitral valve, there was no marked accentuation of the pulmonary second sound. That a mitral insufficiency did not exist, I am not prepared to state; but I believe, on the contrary, that the murmur was correctly referred to the anemia, and the enlargement of the heart to a dilatation, also the consequence of the anemia. To this dilatation of the heart and the anemia were in turn attributed the dyspnea and palpitation of the heart. Whether or not a mitral incompetency also existed, the enlargement of the spleen was certainly not the consequence of passive congestion.

Pernicious anemia was excluded on account of the enlargement of the spleen and the condition of the blood. Enlargement of the spleen, though it does occur in pernicious anemia, is rarely if ever as great as that commonly found in splenic anemia. The difficiency of the individual red corpuscles in hemoglobin, the absence of marked variation in the size of the erythrocytes, the absence of microcytes and macrocytes, and the presence of but very few erythroblasts served also to exclude this condition. It may be remarked, however, that splenic anemia is a form of pernicious anemia, in that it is progressive and fatal. It may be also that future studies will indicate that in nature it is not wholly unlike the condition to which we now apply the designation progressive pernicious anemia. At present, though, there is little evidence to warrant such a supposition.

That the disorder in my patient was not leucemia was immediately evident at the first examination of the blood. The absence of leucocytosis seemed also to settle conclusively the question of sepsis or ulcerative endocarditis. Despite this, however, for a time I could not rid myself of the idea of the possible existence of ulcerative endocarditis. This was not unlikely due to the fact that during the previous winter I had had the opportunity to observe in the medical wards of the Hospital of the University of Pennsylvania, in the service of Dr. Musser, two cases of ulcerative endocarditis; I had lately performed a necropsy at the German Hospital on the subject dead of the same disease; and I had under my charge in private practice a girl of whose condition I had made a like diagnosis. The subject was therefore uppermost in mind. Several enumerations of the leucocytes alone, however, revealed the continued absence of

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leucocytosis; the patient's general condition was hardly of the profound septic character that we associate with ulcerative endocarditis; there occurred no evidences of infarction of either the brain, spleen, kidneys, skin, mucous membranes, retina, or other portions of the body; there developed no roseola, erythema, urticaria, nor swellings of the joints, aside from the later attack of rheumatism in the wrist; there was no irregularity of the action of the heart; and, finally, the manifestations on the part of the heart were adequately explained as already narrated.

It seems to me, in the absence of the confirmative testimony of a necropsy, that the diagnosis of splenic anemia was justified from the absence of etiologic factor; the course of the affection, the enlargement of the spleen, the profound and progressive anemia of chlorotic type, the absence of leucocytosis, the absence of enlargement of the lymphatic glands, the pain and tenderness in the region of the spleen, associated on one occasion with palpable and audible frictions, and attributed to attacks of perisplenitis, the genital hemorrhage, the dyspnea, the diarrhea, the asthenia, the fever, and the moderate duration of the disorder.

There are several of the clinical features of the affection that merit a word in passing. In the first place it is of interest that the disease occurred in a girl. Of Osler's 15 cases, 12 occurred in males, and but 3 in females. Of West's 24 cases, 19 occurred in males, and but 5 in females. It is worth noting also that my patient was twenty-two years of age. With the exception of one, a girl aged eleven years, all of Osler's patients were over thirty-five years of age. Of 22 of West's patients, 13 were between the ages of twenty and fifty years. We may thus assume that the disease occurs with almost equal frequency throughout all periods of life. That a disease that bears at least a superficial clinical resemblance to splenic anemia occurs in children, even infants, cannot be doubted. Although the nature of the disorder as it occurs in children is as little understood as is its counterpart in adults, it seems not altogether unlikely that the two affections are dissimilar. It is well, however, not to confound the infantile pseudoleucemia of Von Jaksch with this condition; in the former there occurs a leucocytosis which is not present in splenic anemia.

The absence of enlargement of the lymphatic glands in my patient is but a clinical observation based upon an examination of the superficial lymphatics alone. Whether any of the deep lymphatics were enlarged, I am unprepared to state —lacking the testimony of a necropsy. It seems that in several of the cases that have gone to necropsy, slight or moderate enlargement of the retroperitoneal, mesenteric, and other glands has been found. It would appear from this that there is at least a little reason for the supposition advanced by some observers, that there exists a relationship between this affection and pseudoleucemia—a relationship warranting, in their opinion, the designation splenic pseudoleucemia. It is maintained by Osler, however, that "there is no warrant for the opinion that these cases of anemia splenica have anything to do with Hodgkins' disease (anemia lymphatica) from which the clinical picture is very different."

The enlargement of the spleen in my patient was not as great as that encountered by some observers. Whether it preceded or followed the development of the anemia, I am unable to state. Both were present when I saw the patient for the first time, and the patient even at that time was unaware of any abnormal growth in her abdomen. In the majority of reported cases the enlargement of the spleen seems to have been the primary event—hence the designation primitive splenomegaly employed almost exclusively by the French writers. I have no reason to doubt that in my case also the enlargement of the spleen preceded the anemia.

The hemorrhage in my case also was very interesting and of an unusual source—from the genitals. I have not read of a similar occurrence in any of the reported cases. The hemorrhages usually associated with splenic anemia are epistaxis, which may be repeated and profuse; gastro-intestinal hemorrhages, which were an interesting feature of a number of Osler's cases, hemoptysis, hematuria, retinal hemorrhages, or smaller hemorrhages into the skin and mucous membranes. It is well to remember the hemorrhagic tendencies of these cases, especially if any operation, such as removal of the spleen, be contemplated.

The dyspnea, particularly during the last month or six weeks of the life of my patient, was really extreme, especially upon the slightest exertion. As already narrated, with the enlargement of the spleen and the anemia, it seemed to dominate the clinical picture. Late in life the diarrhea also was an obtrusive symptom. The attacks came on without obvious cause, lasted three or four days, and at times were really severe and attended by a little rectal tenesmus.

The fever was altogether one of the most interesting features of the disease. It was as a rule very high—usually 103° to 104° F.; I rarely found it below 102° F. in the evenings. It was equally remarkable, however, that on several occasions it was but 99° F. in the evening. It was similar to, and as inexplicable as, that associated with leucemia and other grave anemias.

The blood changes in my case were similar to those described in the majority of reported cases. There was a moderate reduction in the number of red corpuscles, associated with a greater reduction in the percentage of hemoglobin—blood alterations commonly referred to as of the chlorotic type. In a number of the reported cases a marked leucopenia existed, but such was not present in my case. The detection of several erythroblasts and of a small number of somewhat distorted erythrocytes may also be noted.

Concerning the nature of the disease I am

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unable to add anything to what has already been written on the subject. Whether the condition merits the distinction of a clinical entity; whether it is akin to pseudoleucemia, and is in reality a splenic form of the affection, as some hold; or, finally, whether it is but a peculiar form of secondary anemia, the evidence at hand does not warrant us in affirming. Whether the enlargement of the spleen is the direct cause of the anemia, or whether both of these are the result of a common etiologic factor, is at present unknown. It appears, though, from clinical observation that the enlargement of the spleen is the primary event. Whatever the nature of the affection, it presents a tolerably uniform symptomatology, and provisionally, therefore, the designation splenic anemia is satisfactory. Provisionally, also, the designation anemia with enlargement of the spleen is equally as satisfactory if not more so.

It is upon the assumption that the enlargement of the spleen is the essential feature of the disease that the only successful treatment known at present is based. Medicinal treatment is hopelessly inefficient. In but a few cases has temporary improvement followed regulation of the diet and the mode of living, fresh air and sunshine, iron, arsenic, and the like. In appropriate and selected cases removal of the enlarged spleen should be considered. The seriousness and possible fatal consequences of the operation itself must be borne in mind, and it should not be undertaken without reasonable hope of benefit to the patient. That the proper treatment be instituted at a favorable time, the endeavor should be to recognize the affection as early in its course as possible, and, if the patient be in good condition, the operation should not be delayed longer than is necessary for the physician to become assured of the correctness of the diagnosis. Operation should not be undertaken in those cases in which the patient is manifestly doomed to an early death. That satisfactory results, however, may be expected in favorable cases, is indicated by the statistics collected by Sippy. Of seven cases reported in the literature, five were cured by removal of the enlarged spleen. The remaining two died of hemorrhage. To these five successful cases Osler had added a sixth. Some doubt, however, may be expressed with regard to the certainty of the diagnosis in several of the cases collected by Sippy.

The duration and course of the disease in the individual instance should influence us in deciding for or against surgical intervention. The duration of the disease, however, is difficult to estimate, and this is in great measure dependent upon the difficulty in ascertaining the duration of the first stage—the stage preceding definite enlargement of the spleen and grave anemia. The disorder is generally said to last from six months to two or three years. Certain writers, however, have observed cases of much longer duration. Thus, Osler reports one case that lasted five years, and another that persisted for at least twelve years. Cases of rapid course are naturally unsuited for operation. Operation in these cases would not only most probably hasten the inevitable fatal termination, but it would likewise reflect discredit upon the only successful mode of treatment known at present. In those cases in which the disease is of slower course, when there occur remissions and temporary improvement under medicinal treatment, and when the patient is in fairly good general condition, the wisdom of operative intervention should be carefully considered. That in properly-selected cases, surgical treatment may be undertaken with hope of a successful outcome is indicated by the fact that in none of the successful cases so far reported was the operation performed early in the course of the disease.

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SOME DIAGNOSTIC DETAILS.[1]

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THERE are many things in the art of diagnosis not to be found in text-book or journal literature, nor, indeed, anywhere else save by an earnest and observant study of the open book of Nature itself. Skilful diagnosis does not entirely consist of a dulness here, a tympany there, a thrill, a murmur, a classic group of symptoms or scientific facts as put down in some text-book. It is a notorious fact that few cases follow out in detail the text-book description of the disease. What is it, then, that makes the reputation of one physician as a skilful diagnostician, and of another as a bungler? The older physician, with a wealth of experience, has so trained his perceptive faculties that he grasps

[1]Read before the Atlantic City Academy of Medicine.

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and groups the essential details of a case almost at a glance, discarding the unimportant things, some of which are often much magnified by the patient. In this respect, he has the advantage of the young practitioner, who is prone to lay too great stress on whatever symptom may be most exaggerated by the sick man. The real value of symptoms with reference to the general principles of physiology, histology and pathology must be correctly estimated by him who would excel in diagnosis. The perceptive qualities of the mind must also be highly developed, and supported by a habit of the closest observation.

Perception may be defined as that faculty of the mind by which we take instant cognizance of an object or a truth without being able to analyze or communicate the mental process by which we arrive at our knowledge; nor does ignorance of the process necessarily affect the correctness of the conclusion. Fortunate is the physician who naturally possesses this faculty in marked degree. The sense organs of such men are exceedingly keen, and their mental processes rapid. They go straight to the point, recognizing the disease at times instantly, and with almost unerring certainty. It is this faculty, coupled with the habit of unconsciously observing details—the most trivial modification of appearance, complexion, voice, manner, gait, expression, muscular control and hundreds of other minutiæ, that gives to some of our greatest men their seemingly wonderful intuitiveness in diagnosis. Of such physicians it may be said, as of poets, "They are born, not made."

In estimating the true value of symptoms with reference to disease, the mind must be able to sift the wheat from the chaff; to get at the significant things and draw from them correct inferences based on a thorough knowledge of the scientific facts of medicine. Very necessary is that particular quality of a well-trained mind known as the synthetic or syllogistic power, which grasps the salient points of any question, groups them in a logical manner, and reasons from them to a correct and positive conclusion. The true physician should be above the plane of narrow reasoning and prejudice. He must be able to view a question from many standpoints abstractly and have a mind so balanced by an innate sense of justice that each shall receive its due weight in formulating a conclusion.

No physician can see too much, nor observe too carefully. No detail is too trivial for his mental note-book. The minor things not in books may often help him. The expression of the face and the quick glance of the eye often speak volumes, and human nature itself should be thoroughly studied to correctly understand them. Who that has seen the cowering look of the opium fiend, or the cunning craftiness and deceit of the eye of the morphinomaniac, fearful of detection in his vice, can forget it? The bloated face and red eye of the alcoholic is practically pathognomonic. The contorted face, wrinkled with sharp pains; the pallid, worn and weary expression of chronic pain, suffering written in every lineament of the face; the careworn, anxious look of the mother, striving daily, bearing bravely, perchance uncomplainingly, the burden of domestic duty, faithful to her spouse and her family in spite of ovarian and uterine troubles, that are sapping her health and wrecking her nervous system; or the dusky pallor, colorless lips, pinched nose, appealing eyes, distressed and pitiable in their very glance of anxiety, as if they foreshadowed the impending calamity of unrelieved shock or dire disease; all speak with no uncertain voice in determining the conditions confronting us. The discontented and pouting expression of the spoiled hysteric, selfish, domineering, exacting sympathy from all around her, and yet unsatisfied with whatever may be done for her; the wild eye of mania and fever's delirium; the silly face of the imbecile, the exalted or depressed expression of various forms of insanity; the dull, stolid, square-jawed and empty face of the adenoid child, all mean much in diagnosis; while pitiable is the wrinkled, weazened, and very knowing, little old-woman face of the helpless, speechless infant with marasmus. This can hardly fail to impress itself on the dullest observer, when first seen.

The eye alone, dilating with pleasure or contracted with pain, its brightness or listlessnes varying in all degrees of well-being and sickness, indicates often the slightest change from a feeling of buoyancy and health to that of languor and malaise. Its lack of luster is often the first thing noticed in what the watchful mother terms "droopiness" in her child.

Together with the bright eye, red lips and flush of fever, may be seen also an incoördination of groups of muscles. The actions are quick, often jerky, the small muscles of the face twitch, the lips tremble, the voice loses its firmness and trembles as if under strong and suppressed emotion. Loss of control over the voice tone is noticed in many conditions, as in the, at times, abnormally loud laugh and spasmodic speech of the hysteric, the jerky, nervous voice, the aphonia of laryngitis, or the husky voice, the hoarse voice, the voice of hypertrophic rhinitis, which has no carrying power. The tone, expression of the voice, may distinguish the acute cry of pain and the groan of suffering from content and satisfaction. This tone language becomes often the only means of determining in the infant, whether its cry is of anger, griping pain or the fretting of general discomfort. The complexion should not go unnoticed; compare the transparent skin, beautiful flush of color and bright eye of healthful youth with that dull, deadened eye, yellowed sclera and muddy skin, in which each feature takes on a coarser and rougher appearance—the bilious picture of a circulation full of toxins that should have been excreted by lagging organs. The whole face expresses misery and dejection. There is the bumpy acne face, suggestive of genito-urinary disturbance; the tuberculous, waxy, white skin, with hollow, glittering eyes and hectic red; also the roseate nose and florid plethora of gouty grumblers, fit subjects for cerebral hemorrhage; the soft,

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pasty, white skin of the victim of Bright's disease, and that the peculiar, lifeless white of the uric-acid diathesis, so well associated with the refined and physically inactive elderly ladies of the community who pride themselves on their delicate sensibilities and to whom the slightest hardship is a horror. Nor can one forget the bluish lip and peculiar bronzed appearance of the cachectic complexion of malignant disease, as if a transparent skin had been spread over brown paper. This complexion has been considered almost pathognomonic by some physicians.

Such things as the breathing and position of a patient may be indicative. The child with high fever breathes very rapidly. The respiration is also accelerated in the case of an adult. Is the breathing superficial, showing deficient lung space or abdominal pain; catchy, with intercostal neuralgia, or indicating endothelial involvement of pleura or peritoneum, or acutely-congested lung tissue; or is it the distressed breathing of the asthmatic, with its long, whistling and forced expiration? The blue-lipped laborer for breath in failing cardiac compensation; the unconscious patient pallid with alarming hemorrhage, sighing and sighing the life away; the Cheyne-Stokes type and the stertor of cerebral involvement are impressive danger signals to the close observer of disease.

Position is significant, especially with infants. Restlessness, constant shifting of position, and tossing about shows at once an excited condition of nerve-centers. It may be from fever, soreness and pain, a limiting of breathing space in the upper respiratory tract, indigestion, or nervous states. A patient lying on the back, with legs drawn up, suggests pelvic or abdominal pain, or inflammatory conditions which may be of a very varied nature. The sufferer from cholera morbus is frequently found on the side, with thigh and legs flexed, usually unquiet and writhing in pain at intervals. The position taken by those with many chronic troubles is often of the greatest importance in formulating a diagnosis. The space, however, devoted to a short paper does not permit the enumeration of more than a few of the multitudinous things that are seen every day by the observing physician as he makes his rounds from house to house. He often gathers valuable information from the bearing, gait, and even the dress of his patient.

Just a word may be said as to odors. In many diseases certain odors are prominent, as in typhoid fever, grip, tuberculosis, sepsis, decomposition, and other conditions in which elevated temperature plays a part. There are those who have gone so far as to state their ability to diagnose variola, typhoid, etc., by their odor alone. The diarrhea odor, the urinary smell, etc., are significant, while some persons on entering a room where there are several women can single out by the sense of smell those who are menstruating or suffering from leucorrhea.

A very valuable thing in treatment, as well as in diagnosis, is a correct appreciation of temperament. Temperaments may be divided into four general classes *viz.*, (*a*) the nervous; (*b*) the sanguine; (*c*) the bilious, and (*d*) the phlegmatic. Individuals not conforming exactly to these classes are invariably found to be modifications of them or combinations of different classes, as neuro-sanguine, neuro-bilious, sanguino-phlegmatic, or bilious-phlegmatic.

The typical nervous temperament is of brunette description and slender build. Persons of this type are quick-thinking, quick-acting; every movement of the body is nimble and alert. They are always active, both mentally and physically, and keyed to such tension that everything concerning them, joy and sorrow, pleasure or pain, is acute and intense. Highly imaginative, they are often worrying over the things that never happen, and many of this type are burning their supply of life's fuel constantly at a white heat as long as it lasts.

The sanguine temperament, usually of healthy organization, is possessed of much endurance, but needs also much rest and sleep. As a rule, individuals of this type have sandy hair, clear skin, but are sometimes portly in build. This type, perhaps, is every bit as quick and active as the nervous in many ways, yet takes life more calmly and just as it comes. It is not so intense. The sanguine man is not an extremist. He is an optimist, seeing the good in things, looking on the brighter side of questions depressing to others, philosophizing out the results and quietly awaiting their materialization. He has a keen appreciation of the ridiculous, enjoys life in an equable way, and doesn't let its cares and trials weigh so much on his spirits as to depress him and affect his health.

The bilious type, black-haired, dark-skinned, angular, rugged, strong in principle and decision of character, often "grand, gloomy and peculiar," is subject to fits of the deepest despondency and melancholia. These people are matter-of-fact, take life very seriously, and shoulder as a duty, with the heroism of martyrs, weighty responsibilities, from which more timid characters shrink. Some of the world's greatest leaders are numbered among this class, a typical example of which was Abraham Lincoln.

Every one recognizes in the thick-set, broad-shouldered, short-necked, broad-jawed and ruddy man all that is expressed in the word phlegmatic. This type is slow to think, slow to act, slow in his movements, but dogged in determination, often what is known as "pig-headed" and obstinate. Every question must filter through his mind, drop by drop, until the conclusion is reached, while the opposite and more fickle, nervous type has seen through it at a glance and perhaps changed his mind two or three times in the meanwhile. The phlegmatic man enjoys none of that keenness and intensity of feeling experienced by the nervous or sanguine type, nor do the pleasures of intellectual pursuits and high culture appeal to him. The coarser fiber of his make-up demands rather the satisfaction of physical enjoyment. His tastes tend toward the sensual, and he is often lazy, dull and heavy.

A physician may so familiarize himself with in-

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dividual physical types and combinations of temperament, when once his attention has been given to the matter, that at a glance he can tell from the color of the hair, the texture of the skin, the firmness of the flesh, appearance of mucous membranes, expression, bearing, general build, and similar indications, just what allowance should be made for sensitiveness and reactionary power. Such considerations, no doubt, influence every practising physician more or less, perhaps unconsciously, in many cases, in making up his mind with regard to the general condition of his patient.

I have not sought to exhaust such a broad subject in a short paper, but only to touch on a few things here and there that might suggest others met with in your various experiences, and to emphasize the importance of noting every detail, even the smallest and most trivial, in the matter of diagnosis. Such details often aid materially the grouping of things in a general analysis of the patient's tendencies and susceptibilities, and will well repay the close and careful observation given to their study.

ON GONORRHEAL CYSTITIS IN THE FEMALE.

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SINCE Wertheim in 1894 proved that a pure, gonorrheal cystitis does exist, a number of other authors have reported cases of this sort, but still investigations upon this subject have been far fewer than the frequency (though often unrecognized) of this condition would warrant. Krogius[1], in the examination of 22 cases of primary and secondary cystitis, found the gonococcus of Neisser twice, in one of the cases in pure culture. Rovzing[2] reports four cases in which, by means of the cystoscope, he diagnosed a cystitis in the turbid, acid urine of which he found the gonococcus, in one case accompanied by the Bacterium coli. Rostoski[3] found three in the examination of 120 cases of cystitis reported in medical literature. So also Melchior[4] states that true gonorrheal cystitides may occur, which are caused by the gonococcus of Neisser. According to Finger's statement[5], it is to be counted among the rarest of the complications of gonorrhea; Barlow[6] says that cystitis is seldom a direct complication of gonorrhea, but is to be traced back to the intervention of other irritating agencies, a point of view with which Zuckerkandl[7] agrees. Bumm[8] takes the position that every cystitis occurring in the female under these conditions is due to a mixed infection. Young[9] reports two cases of acute and two of chronic gonorrheal cystitis, and states that he believes that this disease is more frequent than is reported. With this statement I fully agree, though I cannot accept all of his cases without question as being cases of gonorrheal cystitis. A careful examination of his article leads me to believe that, although Case I. (in which he obtained the gonococcus in pure culture) was a cystitis, it is far more likely that Case II. was an acute gonorrheal prostatitis (a number of cases similar to the above which have come under my personal observation lead me to take this view), although he did obtain by aspiration purulent urine which contained typical gonococci. Similarly I am led to believe that his cases of chronic gonorrheal cystitis (the one said to be of five years' duration) were not cystitis but prostatitis. Careful examination of a large number of acute and chronic cases of gonorrheal prostatitis has shown me that these may often simulate an acute or subacute cystitis, both as regards the degree of tenesmus and the degree of the turbidity of the urine. It is to be regretted that in none of his cases could the author give us absolute certainty as to the involvement or non-involvement of the bladder, by performing cystoscopy. Without this measure, or the opening of the bladder, no diagnosis can be absolutely certain in the male, owing, as above remarked, to the possible involvement of the prostate. In view of the danger of this procedure, however, in acute cases, and of the exceeding sensitiveness of the urethra, it is a step which may not be taken during the acute stage, though I am of the opinion that during the chronic stage, if proper antigonorrheic precautions are taken, the danger will not be as great as is believed.

In the female, however, in whom there is no prostate gland to complicate the picture, the diagnosis is a much easier matter. The cystoscopic examination of a number of cases of gonorrheal urethritis and urethrocystitis has convinced me that, while there may be some burning pain during urination, in the course of a urethritis, tenesmus, and increased frequency of urination, as well as turbidity of the second urine (the first being allowed to escape through the catheter), will not occur until the gonorrheal inflammation has involved the sphincter or this and the bladder itself. Hence I cannot agree with Kolischer's[10] view that the diagnosis of gonorrheal cystitis in the female can only be made with the aid of the cystoscope, though, in view of the comparatively harmless nature of this procedure, I have felt justified in using it as an aid to diagnosis and as a means of obtaining greater certainty, especially in order to be sure as to the portion of the bladder involved and the extent of the involvement—of course, in every case, under proper precautions.

The results of my examinations were as follows:

Total number of cases of cystitis examined.... 92

In these there was present

Cystitis catarrhalis in..... 67
Cystitis suppurativa in..... 25

The cases of gonorrheal cystitis were found only among those of the suppurative type, and were 5 in number. Of these the form of cystitis was

Cystitis colli in..... 4
Cystitis universalis..... 1

The symptoms of the condition are those of an acute or subacute suppurative cystitis; that is, increased frequency of urination, accompanied by a greater or less marked degree of burning and cutting pain during urination and also preceded or

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followed by a degree of tenesmus varying with the extent of involvement of the sphincter and the tissues in its immediate neighborhood. At times the urine contains small quantities of blood, which usually appears toward the end of urination. Fever or chill may also occur. The urine is usually of acid reaction and turbid, the turbidity being due to the presence of pus-corpuscles and a few epithelia. The gonococcus is found both intra- and extracellular in the urinary sediment, and has the typical characteristics of the gonococcus of Neisser. Where any doubt exists Gram's method of differential staining must be employed. As the culture of the gonococcus from urine is acknowledged to be a most difficult matter, the coincidence of the micro-organisms found in the urinary sediment and the urethral discharge may be taken as sufficiently conclusive. In case of need a culture may be made, with far greater chances of success, from the urethral discharge. The cystoscope finally adds the certainty of the presence of a vesical inflammation and its extent and degree of severity.

But, while there is usually the history of an accompanying urethral, or vaginal discharge, the nature of which the microscope reveals, and while the symptoms are usually marked, my examinations have shown me in many instances that the discharge may be so slight as to escape any but the most careful examination, and that only after close questioning may one elicit any physical symptoms whatever. I have in several instances only had my attention called to the bladder by the patient. The nature of the cystitis was what led to a subsequent examination of the urethra.

In view of the difficulty of getting the gonococcus to grow in cultures made from urine, I did not deem it necessary to try to obtain them in my cases; but the diagnosis of gonorrheal cystitis was only made when turbid second urine was obtained (the first being allowed to flow off through the sterilized catheter after careful irrigation of the urethra with protargol solution), the turbidity being then proven to be due to pus-cells, many of which contained intracellular diplococci presenting all the morphological characteristics of the gonococcus of Neisser. When any doubt existed, Gram's method was applied.

The accounts of the pathological changes and cystoscopic picture vary decidedly with different authors. Finger, Ghou and Schlagenhaufer[11] found, in a case of subacute gonorrheal cystitis examined by them, swelling and reddening of the mucous membrane; the epithelium was desquamated down to the deepest layers and easily removable. There was present in the subepithelial connective tissue an infiltration consisting of round cells, spindle cells and leucocytes; the capillaries, also, were distended, reaching at many points nearly to the epithelium, and were filled with leucocytes. Gonococci were present in small numbers in the upper layers of the subepithelial connective tissue. Wertheim[12] found a true gonorrheal thrombophlebitis of the capillaries of the vesical mucous membrane, with gonococci upon and between the epithelial cells, in pus-cells in the subepithelial connective tissue, and also in the capillaries of this tissue, which they filled. Finger[13] states that "we find the bladder, according to the intensity and extent of the process, in toto or at different points, more or less swollen, more or less intensely inflamed, or only crossed by dilated, dendritic vessels. The epithelium is loosened from its base in shreds, which in part continue to be attached by threads to the mucous membrane, in part float free in the urine, whilst the swollen follicles appear as dark red points." In the four cases reported by Rovzing[14], all of which occurred in the male, cystoscopy showed, in the first case, the mucous membrane at the fundus to be markedly reddened, thickened and succulent, the redness gradually growing less marked toward the periphery. At the vertex the redness was only slight. In the second case diffuse injection and swelling of the entire mucous membrane were found; in the third, the entire mucous membrane was reddened and swollen, the process being most marked in the neighborhood of the internal urethral orifice; in the fourth it was markedly injected at the fundus and the region of the sphincter, while the rest of the bladder was slightly but diffusely reddened. Casper[15] expresses his opposition to cystoscopy, in acute gonorrheal cystitis, and accepts Finger's description. In the case reported by Wertheim[16] the wall of the bladder, viewed through an endoscopic tube, was found to be diffusely reddened, laid in folds, and tending easily to hemorrhage. Zuckerkandl[17] found in a case of severe gonorrheal cystitis, in which he opened the bladder by incision, the wall thickened, the mucous membrane of an even, purplish-red tint, lying in stiff folds, nowhere detachable, and bleeding easily. In the lighter forms, he says, one only sees a diffuse, increased ramification of the blood-vessels which, more marked at points, causes a macular reddening of the mucous membrane; he states that, at times, we find a true cystitis colli. According to Kolischer[18], we find in recent inflammations the mucous membrane, either in the neighborhood of the internal orifice or over the entire surface of the bladder, covered with discrete (inselförmig), pale-red spots, between which the mucous membrane appears fully normal. According to his views the discrete type of the inflammatory areas is characteristic for gonorrhea of the bladder, although, in chronic cases the process tends to spread, the color of the originally red spots becoming more or less brown, the process even going on to the formation of ulcerations.

In the five cases described below the diagnosis of gonorrheal cystitis was in each made only after careful examination of the urine and after cystoscopy. In none of them, as also in a number of other cases of gonorrheal urethritis examined, was there the least increase in the severity, or any spreading of the condition, as a result of the instrumentation, even though these patients could only be treated as ambulant cases. As a result, I should not hesitate to employ the cystoscope in such cases in future, using, of course, similar precautions. I hold it to be especially necessary in

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such examinations to avoid cauterization of the mucous membrane.

The first case coincided in type with that mentioned by Kolischer, many of the areas, however, being of a dark red, almost brown color, others lighter. That the cystoscopic picture did not agree with that given by the other authors I consider to be due to the fact that the case came under our care early, and that we were at once enabled to make a correct diagnosis, to begin promptly appropriate treatment, and thus check the spread of the inflammation. I am inclined, therefore, to accept the "discrete" form as the type of the inflammation in cystitis corporis in the early stages, whereas, in the older cases, the process may tend to become a general, suppurative inflammation through the spreading and final confluence of the inflammatory zones. It seems likely, also, that in this type the infection of the body of the bladder occurs, not through the contact of the walls of the bladder, nor through the urine itself, but solely through the blood-vessels and lymphatics.

The other four cases presented the cystoscopic picture of a cystitis colli suppurativa: The entire circumference of the internal orifice was found to be inflamed, the mucous membrane being swollen

Fig. 1.—Papillomatous growths at and near the sphincter vesicæ in a case of cystitis gonorrhoica.

and thrown into irregular papillomatous folds, having lost its glistening appearance, and bleeding very easily. In one case (Case II.), in which I also succeeded in obtaining endovesical photographs (see Figs. 1 and 2), the lumen of the internal urethral orifice was encroached upon by two papillomatous, inflamed, tumor-like masses. The patient. a primipara, had recently been confined and had subsequently been infected by her husband. I believe that the extent of the changes was, in this case, greatly increased as a result of the bruising of the tissues of the urethra, the child's head having, in passing, crushed it against the pubic arch. Thus the gonococci had an opportunity to penetrate much more deeply into the tissues. In one of the other cases, also, there was a distinct oedema bullosum at the periphery of the inflammatory zone.

All five of the cases added a further proof of the truth of Rovzing's view that gonorrheal cystitides belong to the class "cystitis suppurativa acida." The histories of the cases were as follows:

CASE I.*—Urethritis gonorrhoica, cystitis gonorrhoica; vulvitis gonorrhoica; endometritis non-gonorrhoica. March 10, 1900. Frau G., divorced three and one-half years ago; one abortion. The patient has for a long time had a leucorrheal discharge; for three days, however, she has noticed an increase in the discharge, also pain and burning during micturition, and that she must urinate

Fig. 2.—Similar but larger growth on the opposite side of sphincteral margin.

about every quarter-hour during the day; during the night, however, she does not urinate. The present condition has not been treated nor examined up to the present. Vulvar and urethral discharge is purulent and contains typical intracellular gonococci. None in vaginal secretion. Following irrigation of the urethra with about 50 c.c. of a ½ per cent. protargol solution, the urine is drawn off by means of a sterilized metallic catheter, the first being allowed to flow off, the second caught in a clean, glass vessel and immediately examined.

Urine.—Turbid, acid, contains albumin. Sediment consists exclusively of red blood-cells and pus-cells, many of the latter containing typical, intracellular gonococci. No other micro-organisms present.

Cystoscopy.—The mucous membrane of the entire bladder-wall is strewn with small round, hemorrhagic points and nodules, which strongly resemble a purpura, but are somewhat raised above the level of the surrounding mucous membrane. Between these points, or zones, the surface appears perfectly normal. In the neighborhood of the sphincter the process is most marked.

Therapy.—After preceding irrigation of the urethra with a ½-per-cent. protargol solution, about 75 c.c. of this fluid were injected directly through the urethra (without a catheter) into the bladder, and allowed to remain there until the next urination. After cleansing the vulva and irrigating the vagina with the same solution, a gauze strip, saturated with a 5-per-cent. solution of protargol in glycerin and water, was inserted into the vagina, filling this and being allowed to protrude

*Reported in the Dermatologische Zeitschrift, Vol. VII., No. 3.

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therefrom and a part to rest between the labia. This strip remained in place for twenty-four hours. Warm Sitz-baths daily. No internal treatment whatever was employed, except regulation of the diet. The treatment was repeated daily.

March 15th.—Symptoms during urination have disappeared. The patient now urinates every two and a half to three hours. Treatment has caused no pain whatever. Urine normal. Cystoscopy shows decided improvement.

March 17th.—Cystoscopy shows bladder entirely normal.

March 26th.—Urethral secretion contains isolated pus-cells, many squamous epithelia, no gonococci, but other bacteria (chiefly diplobacilli). Patient has not been either treated nor examined for some days because of menstruation.

April 5th.—Since above date no symptoms whatever. Treatment has been continued. On stripping the urethra a mere trace of mucous discharge is obtained. This consists almost exclusively of mucus, large, squamous epithelia, isolated, degenerated pus-cells, no micro-organisms whatsoever. Urine normal. Cystoscopy shows bladder-walls entirely normal.

The alcohol test and menstruation having produced no reaction, the patient was discharged cured.

CASE II.—Urethritis gonorrhoica; cystitis colli gonorrhoica; vulvitis gonorrhoica. Frau S., 27 years of age, married ten months, primipara (confinement nine weeks ago), no history of previous discharge. April 20, 1900. Patient complained of discharge, accompanied by frequent and painful urination, and pain in abdomen. Examination reveals purulent discharge at vulva and from urethra. Urethral orifice markedly reddened and swollen. Discharge has been present for about two weeks. First coitus after confinement over two weeks ago; again four or five days later. Four days following the latter patient noticed some discharge. This had been preceded for some days by burning about the genitals and burning pain upon urination. Husband admits having contracted gonorrhea about eight days after his wife's confinement. We were able later (June) to verify this, as the husband was still uncured, and, by proper treatment, to cure him also.

Urethral Discharge.—Purulent, pus-cells contain intra- and extracellular gonococci. Gram's stain positive. No other bacteria.

Urine.—After irrigation of the urethra with sublimate solution followed by protargol in ½-per-cent. solution, the urine is drawn off as described in Case I. It is markedly turbid, of acid reaction, grows more turbid on boiling and on addition of acetic acid. Sediment consists of pus-cells and many intra- and extracellular gonococci. Gram's stain positive. No other bacteria.

Cystoscopic Examination.—The entire sphincteral margin is markedly inflamed and swollen, especially at the lower portion. At the lower, lateral angles there are two large, inflamed, papilloma like tumor masses. (See Figs. 1 and 2.) Trigone edematous and strongly congested. The rest of the bladder entirely normal.

Therapy.—Precisely the same as in Case I.

April 23d.—Urinates now six times during the day and once at night (but the latter only if awakened by the child). Neither pain nor tenesmus on urination. Discharge diminished. Still contains gonococci.

April 24th.—Cystoscopy shows little change discoverable. Symptoms diminishing.

April 28th.—Symptoms have disappeared. Discharge very slight; this still contained yesterday a few isolated gonococci.

Cystoscopy shows decided improvement. The swelling and inflammation have become decidedly less marked.

May 3d.—Urine still slightly turbid. Cystoscopy shows continued improvement.

Therapy.—In addition to former measures a trial injection of about 50 c.c. of a ⅛ per cent. solution of nitrate of silver into the bladder is made. Patient is ordered to use daily, a vaginal irrigation of two liters of a 1-1200 solution of nitrate of silver in place of the tampon.

May 5th.—Gonococci still present in the urethral secretion and in the sediment of the still turbid urine.

May 8th.—Cystoscopy shows that the tumor upon right side has disappeared; that upon left side decidedly decreased in prominence.

May 10th.—Gonococci still present in small number in the urethral discharge and in the urinary sediment.

May 18th.—General condition normal. Trace of turbidity of the urine. Sediment contains no gonococci. Still some purulent vulvovaginal secretion. Cystoscopy shows condition similar to that of the 8th inst.

May 22d.—Increase in discharge, which still contains isolated gonococci. Woman admits coitus with her still uncured husband.

Therapy.—Protargol increased to 2 per cent. Vaginal irrigation of nitrate solution replaced by gauze tampon, as before.

May 25th.—Decided improvement.

May 29th.—No symptoms whatever. Urine normal. Cystoscopy shows bladder normal with exception of a trace of swelling and redness on the left margin of the sphincter. No urethral discharge. Vulvovaginal discharge very slight. Alcohol test; coitus test (husband to wear condom).

June 1st.—After above tests a trace of discharge containing isolated extracellular diplococci. Therapy as above.

June 7th.—No urethral discharge. Urethral scraping shows epithelia, solitary, degenerated pus cells; is free of micro-organisms. Urine normal. Cystoscopy shows bladder normal, with exception of slight hyperemia at trigone. Test irrigation with 150 c.c. of ⅛-per-cent. nitrate of silver solution.

June 9th.—No urethral or vulvovaginal discharge. Scraping shows only epithelia; free of micro-organisms. Vaginal scraping shows only epithelia; no micro-organisms. Cervical scraping, mucus containing isolated pus-cells and epithelia; no micro-organisms. Urine entirely clear. Sedi-

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ment only a trace; consists of isolated epithelia and degenerated leucocytes. No micro-organisms.

Therapy.—Since the 1st inst. no protargol has been used. Patient is now instructed to live as usual, and to use daily vaginal irrigation of warm water.

June 16th.—In spite of absence of treatment, and although patient has drunk beer and has several times indulged in coitus (husband wearing condom), there is no reaction whatever. Urethral scraping epithelial in character. Urine normal. Cystoscopy shows bladder normal. Discharged cured, but requested to report from time to time as her husband is still suffering from a subacute gonorrhea.

June 23d.—No symptoms whatever; no discharge.

June 26th.—Condition normal. Cystoscopy shows bladder normal.

July 19th.—Condition normal. Urethral scraping purely epithelial. Urine normal. Cystoscopy shows bladder normal. Discharged cured.

CASE III.—Urethritis gonorrhoica; cystitis colli gonorrhoica; bartholinitis sinistra gonorrhoica. Frl. S.; twenty-five years of age; no history of previous discharge. June 16th: For the past eight days complains of having to urinate about every quarter-hour during the day, the act being accompanied by burning and tenesmus, and followed by slight bleeding. During the night sleep is not disturbed. Patient admits having had coitus twelve days ago. Urethral orifice and left labium inflamed and swollen. Vagina shows no inflammatory changes. Erosion of cervix present. Urine is turbid and of acid reaction. Urethral secretion is purulent; contains typical intra- and extracellular gonococci. No other micro-organisms. Discharge from bartholinian gland is purulent; contains gonococci; no other micro-organisms. Vaginal scraping contains epithelium, diplobacilli, no gonococci. Cervical secretion is of mucous character; contains diplobacilli and diplococci (not gonococci, however). Urinary sediment contains pus cells, many containing typical intracellular gonococci.

Cystoscopy.—Sphincteral margin inflamed and swollen, especially at the lower, left portion. Trigone markedly hyperemic. Oedema bullosum vesicles visible at different points, near the zone of inflammation. Blood clot in left pocket of bladder. Body of bladder free.

Therapy.—Same as in Case I., with addition of massage of the infected gland. Complete treatment could not be begun until the 19th inst.

June 20th.—Symptoms have somewhat lessened in severity.

June 21st.—Urinates now only every two hours during the day. Pain and tenesmus have diminished in severity. Discharge less marked; still contains gonococci, but fewer. Still purulent secretion from the diseased gland. Cervical secretion mucous in character; contains a few pus cells, but no micro-organisms whatever. Cystoscopy shows no marked change.

June 30th.—Has not appeared for further treatment. Discharged improved.

CASE IV.—Urethritis gonorrhoica; cystitis colli gonorrhoica. Frl. N.; twenty-two years of age; no history of previous discharge. June 23d: Patient complains of having noticed some discharge since about the 9th inst. Since the 15th she has had some cutting and burning pain on urination, but no tenesmus. Yesterday noticed some blood at the end of micturition. Frequency normal. Admits having had coitus on the 1st inst. Inspection reveals redness and swelling (not very marked, however), of urethral orifice. Vulva and vagina show no inflammatory changes. Urine, turbid, acid. Urethral discharge, purulent; intra- and extracellular gonococci (Gram positive). No other micro-organisms. Urinary sediment, pus cells; intra- and extracellular gonococci (Gram-positive). No other micro-organisms. Cervical secretion, mere trace; mucous character; no gonococci; other bacteria, however.

Cystoscopy.—Inflammation and swelling at sphincteral margin and trigone. Body of bladder free.

Therapy.—Same as in Case I.

June 25th.—Urination normal. Urine still turbid. Urethral secretion less; gonococci present. Vaginal secretion contains epithelia and bacteria, but no pus cells or gonococci. Cervical secretion mucous in character and free of micro-organisms.

June 26th.—Discharge diminishing; urine clearer. Still gonococci. In addition to above treatment, a small strip of gauze saturated with a 5-percent. protargol solution is laid into the urethra. This is repeated daily.

June 28th.—Symptoms disappeared. No discharge. Urine clearer. Urethral scraping shows gonococci, but in small number.

June 30th.—Discharge and gonococci increased. Patient admits having disobeyed orders and having drank weiss bier during entire course of illness. Cystoscopy shows still decided inflammatory changes.

July 3d.—Diminution in discharge and in number of gonococci. Urine clearer. Sediment contains degenerated pus cells and isolated gonococci.

July 5th.—No symptoms. No discharge. Scraping contains pus-cells, epithelia, mucin and isolated gonococci.

July 6.—Urine clear. Sediment normal, and contains no gonococci. Urethral scraping free of gonococci. Cystoscopy shows still some redness in the neighborhood of the sphincter.

July 7th.—A few gonococci in the urethral scraping.

July 9th.—Urethral scraping free of gonococci.

July 10th.—Urine continues normal. In urethral scraping are a few gonococci.

July 11th.—Urine normal, sediment free of any micro-organisms. Urethral scraping also free.

July 12th.—Menstruation, consequently no treatment Must leave the city to go home to parents. Discharged improved.

CASE V.—Urethritis gonorrhoica; cystitis colli gonorrhoica. Frau G., thirty-two years of age.

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June 30, 1900. Complains of discharge from genitals which has lasted about three weeks. Has to urinate nearly every half hour, the act being accompanied by burning. Is not disturbed during night. Patient states that she was infected by her husband, who admits extramatrimonial infection. Discharge comes from urethra, which is swollen and reddened. Neither vulva nor vagina shows inflammatory changes. Urethral discharge purulent. Intra- and extracellular gonococci. No other micro-organisms. Urine, turbid; acid. In sediment, pus cells with intra- and extracellular gonococci. No other micro-organisms.

Cystoscopy.—Sphincter and trigone inflamed and swollen. At upper right angle of sphincter a broad, papilloma-like growth of the size of a pea.

Therapy.—Same as in Case I.

July 7th.—Still gonococci in urethral discharge, though fewer in number.

July 9th.—Symptoms have entirely disappeared and urination is normal in character. Still many gonococci in the urethral secretion. Urine almost clear. Sediment consists of degenerated pus cells and epithelia. No micro-organisms.

July 11th.—Still gonococci present. Patient admits having drunk weiss-bier.

July 14th.—Still gonococci in the urinary sediment and in the urethral discharge.

July 19th.—Slight discharge, containing degenerated pus cells and isolated gonococci. Urine clear. Only a slight trace of sediment obtainable, consisting of degenerated pus cells and epithelia. No micro-organisms.

July 20th.—Scraping of the urethra, as also the minimal urinary sediment still contain isolated gonococci. Urine entirely clear.

July 21st.—Still some discharge. Free of gonococci, however. Cystoscopy shows still inflammation and swelling of trigone and lower margin of sphincter. Referred to Berliner Allgemeine Poliklinik for continuation of treatment as this clinic closes for the season.

Although, in the male, as before stated, one must hesitate before performing cystoscopy during the course of a gonorrhea, I believe that the above five histories have demonstrated that the dangers of this procedure are not so great in the female, provided, of course, that the examination is preceded and followed by appropriate measures. The additional knowledge of the case which we gain overbalances, I think, the slight danger. In every case of acid cystitis, however, before any treatment is begun at all, I should strongly recommend the microscopic examination of the sediment. If this be done, I feel certain that we shall hear from the gynecologists, in the future, of far more cases of true gonorrheal cystitis than we have up to the present.

A final word concerning the treatment. In former days, before we possessed agents which destroy the gonococcus wherever it may be reached, without unduly irritating the mucous membrane, it was the custom to treat the acute stage of gonorrhea by letting it alone and contenting oneself with keeping the patient as quiet as possible and by putting him or her on internal treatment designed to keep the urine bland and unirritating. This plan, in but too many cases, proved its utter inadequacy. At present, since we possess—notably in protargol and largin—two reliable preparations which, if properly used, will do all that drugs can do, we are not justified in delaying the commencement of treatment for one day. This view, the truth of which I have had ample opportunity to prove, is gradually being accepted by even the more conservative of scientific observers. Finger[19], formerly one of the most ardent adherents of the expectant form of treatment, now places himself firmly upon the opposite platform. At his side are Frank[20] and Fuerst[21], who also speak for the immediate institution of the treatment. I believe with them that if we use the non-irritant, non-astringent antiseptics, we can achieve the best result by beginning our treatment at the earliest possible moment. So that in cases of gonorrheal cystitis, beside restriction of diet and the use of frequent hot Sitz-baths, we may begin the use of such remedies, in appropriate strength, in the form of urethral and vesical irrigations, some of the solution being allowed to remain in the bladder each time, these being made in the male without the use of a catheter. In the female the plan which we employed seems to me to offer the best chances of success. It is of interest to note that in all of our cases we were enabled to prevent the spread of the disease beyond the parts originally infected.

One may not, however, discharge a case as cured until the urethral discharge has entirely disappeared and remains away even after the different provocative tests (in the female also until after menstruation) have been employed, until the urethral scrapings are epithelial in character and entirely free from gonococci, until the urine is entirely clear and the sediment normal and free of gonococci, and until the cystoscope reveals a vesical mucous membrane free of all traces of inflammation.

In conclusion I wish to express my most sincere thanks to my friend and colleague, Dr. Richard Knorr, of Berlin, Germany, for the permission to study and report these cases.

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CLINICAL MEMORANDA.

SEVERE ACUTE PLEURISY, FOLLOWED BY PHLEBITIS; DEATH FROM EMBOLISM.

BY CHARLES ROSS JACKSON, M.D.,
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THE patient, a small woman, sixty-three years of age, had been for three days suffering greatly from dyspnea and pain in the left side when I first saw her. On this occasion her respiration was 62, pulse 140, and feeble, and temperature 102° F. Examination showed the heart apex to be in the fourth space on the right side in the nipple line, and the left chest to be entirely filled with fluid. The left lung was so misplaced that respiratory sounds were not audible anywhere on this side, not even at the apex.

The patient was also suffering from a large intra-abdominal tumor, which protruded beneath the umbilicus as a nodular mass. This tumor was hard and resistant in most of its extent, and was very large, occupying almost the entire abdominal cavity. The great size of the abdomen had been referred by the patient to a dropsical condition. Fluid was not demonstrable, however, and the kidneys were normal. Later, after operation, I was able to determine that the heart was normal. There was no edema of the legs. An exploratory puncture of the left side of the chest revealed the presence of a clear, serous fluid, but owing to reluctance on the part of the patient, I was unable to operate for its removal until the next day, the second after my first visit. Then, with the assistance of Dr. D. T. Marshall, I removed 127 ounces of fluid. At the time of operation the pulse was 140, temperature 101° F., and respiration 64; cyanosis was marked. Hypodermatic stimulation was necessary after the removal of but a few ounces, but as the pulse rallied respiration became slower and the general condition improved. There was not any severe cough during the operation, and the left lung expanded well as the fluid was withdrawn.

After aspiration the heart was found to have swung back to nearly its normal position. The puncture was made in the seventh space in the mid-axillary line, the patient being in a semi-recumbent dorsal position, partly because this was the most comfortable for her, and also because I believed that this position would secure a more uniform and gentle return of the heart to the left side, and would prevent undue or sudden traction on its supporting blood-vessels above—a very important consideration in massive left-sided pleurisy in old persons.

Half an hour after operation, the pulse was full and strong at 108, and respiration 36. As only a small amount of fluid had been left in the chest, it was entirely absorbed in a few days under tonics and mild purgatives. On the fourth day the pulse had fallen to 80, the temperature was normal, and the respiration 28; the left lung had expanded in a very satisfactory manner, and the pleura showed but slight signs of thickening. To my mind the still rapid respiration was due in some degree to upward pressure by the tumor in the abdomen.

The patient was up and about on the fourteenth day; her condition was good, the pulse not exceeding 90 after exercise, and its volume being excellent. On the twentieth day she had one degree of fever, and for several days there was an afternoon rise to 101° F. Repeated exploratory punctures did not reveal any evidence of empyema, and the physical signs in the chest were negative. On the twenty-fourth day she complained of pain and great tenderness in the calf of the left leg, also of chilly sensations, although the temperature did not exceed 101° F. The pain increased, the leg became very edematous, and the popliteal vein could be felt as a hard cord; cord-like masses also could be felt along the course of the internal saphenous vein. At the same time the patient complained of severe pain over the femoral, where there was also great tenderness. Absolute rest was enjoined, the limb was elevated, and other means taken to combat the phlebitis. One week later the tenderness had diminished, the limb was still edematous and cyanotic to an unusual degree, but the temperature was again normal and the general condition good. I carefully cautioned the patient and her attendants, enjoining absolute quietude of the limb. On the morning of the thirty-sixth day after operation I saw her, and found her condition good, heart action excellent and no evidences of lung or pleural trouble. The leg was progressing favorably, and the temperature was normal. The next day, despite all warnings, the patient got up, walked two or three steps and returned to bed. She was immediately seized with an agonizing pain in the right side of the chest, and great dyspnea. I saw her a few minutes afterward, and found her cyanosed and struggling for breath. The heart was weak at 150, respiration variable, about 60 and very shallow. Death, which followed rapidly, was preceded by most intense cyanosis.

The sudden onset of pain in the chest, after exercising and the mode of death make it certain that there was an occlusion of the pulmonary artery. In the absence of any chest trouble at the time of death and in view of the severe phlebitis of the leg, we are safe, I think, in ascribing the death to an embolus from the diseased vein rather than to the formation of a local thrombus in the pulmonary artery.

Aside from the mode of death, the case is interesting because of (1) the amount of fluid removed from the chest and manifestly due to acute pleurisy, and (2) the development of a phlebitis after simple pleurisy—a rare occurrence. In the absence of autopsy the relation of the abdominal tumor to the phlebitis is purely conjectural. That by its size and pressure it disturbed the circulation in the leg, and thereby aided in the formation of thrombus is very probable.

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CASE OF DEXTROCARDIA.

BY HOMER M. THOMAS, A.M., M.D.,
OF CHICAGO.

A CONSIDERATION of the general subject of heart displacement reveals two varieties, namely, those which are congenital and those which are acquired. Considering the type of acquired displacements, under which head comes the case I am about to report, we find that very considerable displacement of the apex beat to the right may be due to retraction of the right lung from fibroid phthisis. Again, a very common cause is found in the development of pneumothorax. In cases of fibroid phthisis in which dextrocardia exists, the apex beat is frequently above the right nipple, and might be recognized by physical signs dependent upon collapse or fibrosis of the lung. The heart is pressed out of position by effusions of fluid—inflammatory, serous or bloody—into either pleural cavity; by pneumothorax of either side; by intrathoracic tumors; by hypertrophic emphysema or other causes of enlargement of the lungs; by extensive pneumonic consolidation; or by abundant pericardial effusion of any kind. Certain conditions of the abdominal contents produce a similar effect, for example, gaseous distention of the stomach and intestines; enlargement of the liver and other solid organs; abdominal tumors of all kinds and ascites when considerable. In displacements of the heart toward the right the condition is usually the result of effusion into the left pleural cavity, of contracting processes of the right lung or pleura, of left pneumothorax, and of tumors of the left side of the chest or of the mediastinum. In extreme cases the heart may be displaced toward the right side until the impulse is found in the axillary region.

The case here presented is that of F. J., aged forty-six years, occupation rubber worker, whose duties involved the inhalation of considerable quantities of soapstone as well as carbon bisulphide. There is no family history of tuberculosis nor of his having had pneumonia or pleurisy. His only sickness of recent date was an acute rheumatism in 1895. Present condition reveals cough, shortness of breath which began seven years ago; has had much headache and pain in left chest throughout his illness; for two years the cough was very dry; at present expectoration is abundant and comes in somewhat paroxysmal seizures. No tubercle bacilli have been found. The injection of tuberculin developed absolutely no reaction.

Physical Examination.—General anemia, some debility, dyspnea. Complexion dark; emaciation moderate. Form of chest, bulging at costochondral junction; respiratory movements hurried; restricted intercostal retraction. Apex beat fifth space, right nipple line; upper border, upper edge fifth rib; right border, anterior axillary line; left border, right border sternum; lower border, contiguous with the liver.

Mensuration.—Height, five feet, eight inches; weight, 124 pounds.

Measurement.	Expiration.	Inspiration.	Difference.
Right lung	17½	18	½
Left lung	16¾	17	¼
Combined	34¼	35	¾

Morning temperature, 97.5° F.; noon, 98° F.; evening, 98° F. Frequency of pulse, 92; rhythm regular. Heart, valvular sounds clear; arteries show moderate thickening.

Upon percussion of the left lung anteriorly dulness is found extending from the supraclavicular, clavicular and infraclavicular regions. Upon the right lung anteriorly there is hyperresonance, extending from the lower border of the first rib down to the lower border of the third rib in a semicircular line about one inch to the right of the costosternal articulation. Posteriorly, the lower border of the right lung shows increasing dulness extending from the lower border of the eleventh rib up to the inferior border of the sixth rib posteriorly. Posteriorly in the right lung, extending downward from the superior border of the fourth rib, down to the eight rib anteriorly, there is found typical bronchial breathing with moist, fine, bubbling râles, and increased vocal fremitus.

Diagnosis.—Our conclusions, based upon the history, as well as upon the present physical findings, are that this is a case of acquired dextrocardia, due to fibroid phthisis and an antecedent attack of pleuropericarditis.

Treatment.—Remove the exciting cause of the dextrocardia, and, necessarily, the displacement will tend to correct itself. This general principle of treatment can be applied to only a limited extent in this individual case. The exciting cause is of too chronic a character, and the lesions resulting from the same too permanent to admit of entire removal. Treatment is, therefore, mainly directed toward the maintenance of the best possible physical condition and the relief of acute symptoms as they may arise.

703 Field Annex.

MEDICAL PROGRESS.

Modification of Cow's Milk.—Of the various methods employed for rendering milk suitable for the infant, most are defective and do not prevent the precipitation of casein in heavy curds in the stomach. L. VON DUNGEN (*Münch. med. Woch.*, Nov. 27, 1900) recommends a very simple method which renders cow's milk perfectly digestible for the youngest patient. The milk, previously boiled, is heated to body temperature and then coagulated with rennet. The coagulum is then completely broken up with a beater. The suspension will eventually be so fine that the finished product can hardly be distinguished from the unaltered milk. Extended experiments have shown this method to be preferred to the usual addition of cereals which infants do not always take well, or to the preliminary digestion with pancreatin which alters the milk to an undesirable degree.

Muscular Atrophy in Infancy.—Muscular atrophy, according to J. HOFFMANN (*Münch. med. Woch.*, Nov. 27, 1900) can be divided into muscu-

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lar, neural and spinal. The latter, of distinct familiar and hereditary type, though rare, especially claims the author's attention on account of the ease with which it can often be diagnosed *intra vitam*. It presents the following peculiarities: Usually children, who are born of healthy parents and without the aid of the forceps and whose first months of life have not differed from those of other infants, are attacked by the disease between their fifth and ninth months. In the course of weeks or months the motions in the hips become more and more weak, and this without the appearance of any acute symptoms of infection, such as vomiting, diarrhea or convulsions. Walking, if it has already been begun, will become impossible. At the same time, or soon after, a weakness of the dorsal and abdominal musculature manifests itself. Subsequent months or years show the progress of the disease to the upper extremities and neck, so that eventually the entire system of muscles is more or less paralyzed. The cranial nerves, with the sole exception of the spinal part of the accessorius, are not involved. Atrophy of the muscles, which may be hidden by a well-developed fatty deposit in the subcutaneous tissues, reaction of degeneration, loss of patellar reflex, contracture and a kyphoscoliotic curvature of the spine are found. On the other hand, the mental faculties and sensation are rarely affected, except for occasional transient pains. A cure is impossible despite the free use of saline baths, strychnine, phosphorus, the iodides, electricity and quinine; death from pulmonary complications invariably occurs in from 1-4 years. Bulbar symptoms or muscular hypertrophy or pseudohypertrophy have not been observed. Pathologically there is a symmetrical degeneration of the neurons of all nerves below the hyperglossal, of the multipolar ganglion cells of the anterior horns and of the intra- and extramedullary portions of the anterior roots. The brain and the white columns of the cord are unchanged. The cause of the disease is unknown, but is probably due to an inherited weakness of the parts involved.

Varicose Veins.—A cure of this condition has been attempted in recent years by two methods of operation: (1) Ligation of the veins in several places, with or without the removal of small sections, or (2) excision of a considerable portion of the vessel in continuity. J. B. BLAKE (*Boston Med. and Surg. Jour.*, Dec. 13, 1900) reports 11 cases, of which number 7 were cured by operation, 3 were relieved temporarily or partially, and 1 was worse than before. The case of the patient who reported himself as worse than before is reported in detail as illustrating a type in which the operation by excision will probably be followed by little or no improvement. Of the 3 patients who were partially or temporarily relieved, 1 reported no pain but a small ulcer, 1 still had some pain, and in 1 the pains returned at the end of a year. The ages of those reported cured varied from twenty-five to fifty years. In all cases the scars were firm, not tender and not painful. Blake draws the following conclusions: (1) Operation for radical cure of varicose veins by dissection is not successful in every case. (2) To obtain successful results, cases must be selected and certain conditions avoided and recommended to palliative treatment. (3) The condition which will probably militate against satisfactory results are: (*a*) Old age, or an extremely debilitated condition; (*b*) excessive and very extensive varicosity; (*c*) occupations which to an extraordinary degree favor the development of varicose veins. (4) Cases which may be cured by a thorough and careful operation are: (*a*) Local varix, even of marked prominence, particularly if thrombosis has occurred, either in thigh or leg; (*b*) extensive varix, limited to a single venous stem; (*c*) varicosities, which are a bar to passing civil service, military or naval examinations; (*d*) cases in youth and middle life; (*e*) cases in which the development of the permanent varicosity was at least partially due to more or less removable conditions, such as flatfoot, garters, etc. (5) Operation, even if not entirely successful, will usually relieve such complications as thrombosis, hemorrhage and ulceration. (6) The usual conditions which follow unsuccessful operations are: (*a*) Pain in and around the scar (*b*) general swelling and tenderness of the leg; (*c*) development of varicosities above or below the operation scar, but not at the site of the operation itself. (7) In all operated cases, general systematic treatment, as well as local treatment, should be prescribed, together with exercise and the avoidance of a continued upright position whenever possible. (8) Cure of symptoms does not necessarily mean the removal of all visible varicosities. (9) Comparison of relative methods of multiple ligation and continuous dissection must be based upon a larger number of cases than here recorded. (10) Bennett's conclusions and his extreme limitation of the indication for successful operation are too sweeping.

Tetany Following Intoxication.—F. DAMMER (*Münch. med. Woch.*, Nov. 13, 1900) reports the case of a patient who was treated with male fern and calomel for tapeworm and who, soon after the expulsion of the head developed typical symptoms of tetany with both Trousseau's and Chovstek's symptoms present. Since the ordinary causes of tetany were absent and since calomel has never been known to cause tetany, it was but proper to ascribe this to intoxication with male fern, which not rarely causes nervous symptoms of a less-pronounced character.

Oxyurides in the Skin.—P. BARRAGALLO (*Gaz. Degli Osped e de Clin.*, No. 111, 1900) records the case of a boy, aged fourteen, whose previous history was negative, complaining of intense itching about the anus. This had become so intolerable that the scratching of the part by the patient's finger-nails had produced an eroded, inflamed area about the anus, which local applications of various ointments failed to relieve. About the anus there were excoriations, and rhagades, which were intensely painful, so much so as to interfere with the patient's locomotion and with his ability to sit comfortably. These symptoms had continued so long that the boy's health began to show impairment. The region about the anus was reddened and ex-

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coriated and covered with a seromucous exudate, in which, especially in the discharge from the rhagades and excoriations, were found small, round, mobile, whitish, elongated bodies, about six millimeters long, which on microscopic examination proved to be *oxyurides*; some of these parasites were found in the stools, also ova in various states of development. A diagnosis of *oxuriasis cutanea* having been made, the following decoction was given: Senna leaves, one-half ounce; water enough to make a decoction of two and one-half ounces; to this add sodium sulphate, two drams, and simple syrup, five drams. This was divided into two parts, and taken with one day intervening. External treatment consisted of soothing salves to the excoriated area and the injection twice daily of a three-quart enema of a 1-1000 salicylate-of-sodium solution, made with sterilized water; at the end of a fortnight all evidence of these worms had disappeared and from this time on the patient convalesced nicely without interruption.

A Case of Hematuric Bronzed Disease.—An interesting report upon this uncommon disease, with the history of a case, has recently been contributed by NOBECOURT and MERKLEN (*Archives de Médecine des Enfants,* November, 1900). Beginning shortly after birth, the patient shows more or less jaundice, sometimes the color being almost black, with accompanying cyanosis of the face and extremities. The urine is usually scanty and contains blood. Abnormal temperature is more common than fever. Death frequently takes place in three or four days. The post-mortem shows the blood to be almost black; the liver is markedly congested with no obstruction to free passage of bile anywhere. The kidneys present multiple hemorrhages, most marked in the cortex; the uriniferous tubules also contain red blood-cells. Concerning the etiological side nothing definite can be said; it is usually regarded by many as infectious in character, although no special micro-organism has yet been associated with the disease. The case reported by the authors was that of an infant, ten days old, apparently born under natural conditions. From the first the infant showed icterus, cyanosis and subnormal temperature. It died three hours after birth. The autopsy findings of interest were mainly limited to the kidneys. The liver was bile-stained, but otherwise normal; the kidneys showed exterior hemorrhages in both the cortical and medullary portions. The bacteriological examination was considered negative.

Heroin Hydrochloride.—BERNARD LAZARUS (*Boston Med. and Surg. Jour.,* Dec. 13, 1900) calls attention to the stimulating effect of heroin upon the respiratory centers, its sedative action in conditions of irritation, its freedom from depressing action upon the heart or circulation, and its analgesic properties, as ascertained by various observers. He has studied the action of the drug in fifty-two cases, nine of which he reports in detail to illustrate its action in various diseases of the air-passages as well as in other conditions. These fifty-two were cases of pulmonary tuberculosis, bronchitis, asthma, pneumonia, laryngitis, coryza, rhinitis and intercostal neuralgia. The writer used the hydrochloride of heroin because of its solubility in water, which property heroin itself does not possess. Under the administration of heroin hydrochloride the relief of pain, cough and dyspnea was obtained in all cases in from one to five days. Nausea and giddiness followed the administration of heroin hydrochloride in only two of the fifty-two cases. This happened after a dose of one-sixth grain, and promptly disappeared after the dose was reduced to one-twelfth grain. In one case the drug produced a gastric disturbance similar to that caused by morphine taken on an empty stomach, but this was not noticed when the drug was given after meals. Constipation resulted in three cases, but was easily relieved by adding a small dose of calomel to each dose of heroin hydrochloride. The bad effects only followed the larger dose of one-sixth grain and promptly disappeared on reducing the dose to one-twelfth grain. In most of the cases the dose given was one-twelfth grain of heroin hydrochloride every two to four hours, according to the severity of the symptoms. From a study of his cases Lazarus considers heroin hydrochloride a valuable drug, and he would rank it as a specific in pulmonary affections accompanied by cough. While in neuralgia its analgesic qualities, and in asthma and whooping-cough its anti-spasmodic effect should give it an important place in the treatment of these diseases.

Menstruation in the New-Born.—DR. KOUINDJY of Paris read a very interesting report of three cases of menstruation in newly-born children (*Archives de Médecine des Enfants,* November, 1900). So rare has this been that Naegelé considered vaginal hemorrhage in this class of patients to be a myth; however, the author states that some isolated reports have been published by Underwood, Billard, Ollivier, Bovain, and a few others. In 1876 Dr. Cullingmont is said to have presented to the Manchester Obstetrical Society a report of some 32 collected cases. The 3 cases of Dr. Kouindjy were observed during the last three years. Two of the cases were healthy children born to the same mother, a sanguinous discharge appearing on the fourth and fifth days, respectively, after birth; the third case, likewise well built, had a similar vaginal discharge on the fourth day after birth. The writer finds that opinion is by no means uniform with regard to the interpretation of these hemorrhages. For some the discharge is the result of some lesion in the genital tract; others, on the other hand, like Camerer, believe that the bleeding is the result of disturbances in the pelvic circulation induced by a hurried ligation of the cord. A few like Ollivier, Pinard and the author, fancy that many are genuine instances of precocious menstruation.

Lichen Planus of the Urethra.—Lichen planus occurs quite frequently upon the oral mucous membrane and cases have been described in which the larynx and the anus were involved. A unique case, however, is that of E. HEUSS (*Monatshft. f. prokt.*

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Dermatolog., Nov. 15, 1900). He had under treatment a patient affected with lichen planus of the mouth. A constant irritation in the urethra led to a urethroscopic examination with the result that another patch was detected in the middle of the penile portion. The administration of arsenic for two months resulted in a complete cure.

An Antemetic.—Following the anesthesia of ether and chloroform nausea and vomiting have come to be considered almost the rule and, although frequently favorably influenced by various methods, they are seldom entirely controlled. L. J. HIRSCHMAN (*N. Y. Med. Jour.*, Dec. 15, 1900) has recently observed thirty cases in which he has administered 10 to 15 grains of chloretone about one-half hour before the anesthetic is given. It is preferably given dry on the tongue and followed by a little warm water. The amount of anesthetic used was diminished from one-third to one-half. None of the patients was nauseated during the operation, only ten per cent. were nauseated afterward, and only one vomited more than twice after coming out of the influence. The drug is supposed to be both a local anesthetic to the mucous membrane and a sedative to the nervous system.

Enlarged Malarial Spleen Treated Hypodermatically.—V. PIGA (*Gaz. Degli Osped e de Clin.*, No. 111, 1900) records the case of an eighteen-year-old lad, in whom, in addition to quinine treatment, he employed injections of an iodine-potassium-iodide solution, after the following formula:

Potassium iodide.....	2.0	(ʒ ss)
Iodine pure.....	1.0	(gr. xv)
Distilled sterilized water..	100.0	(ʒ iii ss)

About thirty minims of this solution was injected, at first twice daily, then once daily and finally every other day until at the end of seven weeks the spleen was no longer to be felt and all pain in the left hypochondriac region, which from the beginning of the disease had been most painful, had disappeared.

Subjective Symptoms of Neurasthenia.—Among the most alarming and disagreeable symptoms of neurasthenia, L. HOEFLMAYR (*Münch. med. Woch.*, Nov. 13, 1900) mentions those due to irritation of the vagus. The physician is usually called at night to see the patient, who, struggling with extreme dyspnea and cardiac pain, seems to be in the last stages of an organic heart lesion. Cold perspiration usually covers the entire body; the lower extremities feel cold, and the pulse is increased in frequency and often arhythmic, though not weak. A history of constipation can usually be elicited and a large dose of castor oil usually brings relief, so that it is probable that the symptoms are due to irritation of the end-filaments of the vagus in the intestines through gases of putrefaction. The whole process seems to be a defence on the part of the body to limit self-intoxication. The characteristic headache is another very common and disagreeable symptom of nervous exhaustion which may also find an explanation in auto-intoxication. This is also relieved by the liberal use of cathartics.

THERAPEUTIC HINTS.

Ihle's Paste.—For inflammatory and parasitic skin diseases the formula is:

℞ Resorcin.....	0.7	(gr. x)
Starch		
Zinc. oxid.....		
Lanolin		
Vaselin.....aa	8.0	(ʒ ij)

Morphinism.—If the drug be suddenly withdrawn, writes Gilman Thompson, severe gastro-intestinal and cardiac symptoms may follow. Therefore gradually reduce the quantity, so that it may be omitted after two weeks. Meanwhile give strychine and digitalis in full doses, and warm baths or hot packs to quiet restlessness. The vegetable astringents catechu and kino will control diarrhea. Milk, eggs, broths, custards, and other assimilable foods, should be given every two or three hours. The patient requires moral support, restraint and close observation for a long period.—*Practical Medicine.*

Mumps.—Even mild cases require rest in bed, writes Jules Comby, as prophylaxis against complications. Fatigue favors the development of orchitis. A milk diet, a purgative such as calomel, scammony, jalap, or a Seidlitz powder, the external application of opium-and-belladona ointment, and the spraying of nose and throat with boiled water or a solution of boric acid or naphtol constitute the treatment of mild cases. Counterirritation, continuous cold, and massage, are not recommended. In severe cases cool baths at 64° to 68° F., three or four times a day, with acetate of ammonia, strychnine, caffeine, or quinine, reduce the temperature and promote comfort. Orchitis requires rest and emollient applications, the active treatment by massage, leeches, blisters, etc., often resulting in atrophy. For the deafness following mumps, potassium iodide, quinine, and pilocarpine are advised. For the nervous symptoms, the wet sheet, bromides, musk and ether. Where a grave anemia persists the indications are iron, quinine, cod-liver oil, iodotannic syrup, etc., and change of air, with perhaps a course of sea baths.—*Twentieth Century Practice.*

Gastric Cancer.—The problem, write William Osler and T. B. McCrae, is to nourish an individual with impaired gastric functions. Food should be given in small amounts, concentrated, and very digestible. Liquids should be given sparingly, the great thirst being relieved by hot water half an hour before meals and by enemata. Milk, raw or modified, is mostly borne well in small amounts, especially if salt is added. Soups, meat extracts, finely-minced, tender meats, eggs and stewed fruits are helpful, carbohydrates promote fermentation, and are limited in amount; the coarser vegetables and the fats should be omitted. The indulgence of special longings gratifies the patient. When necessary nutrient enemata may be given. As stomachic, condurango with hydrochloric acid is beneficial, and

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quassia, gentian, calumba, or nux vomica may be used. Hydrochloric acid and pepsin promote digestion. Good whiskey taken neat or with apollinaris or soda-water is helpful. Lavage is indicated in cases with motor insufficiency, especially if there is dilatation. Hemorrhage and ulceration are no contra-indication, and the washing removes adherent decomposing and irritating material. As a general tonic arsenic usually does best, and:

℞ Ac. carbol. vel creosot.....0.065 (♏ j)
Tinct. iodi.....0.13 (♏ ij)
Glycerin.....4.0 (ʒ j)

will allay fermentation. Lavage is best at bedtime and at least four hours after a meal. It may be performed with plain water or solutions of boric acid, thymol, salicylic acid, or sodium bicarbonate. —*Cancer of the Stomach.*

Vaginismus.—Remove local cause such as inflamed hymen, irritable urethral caruncle or carunculæ myrtiformes, fissures or inflammations. Fissures of the hymen are best treated with four-per-cent. chloral hydrate applications; fissures of the bladder-neck by overdistention with strong nitrate of silver and bougies left to melt in the urethra, of:

℞ Cocainæ Hydrochlor.....0.75 (gr. xij)
Ol. theobrom .....q. s.

Div. in bacilli, No. xij, and insert one morning and evening. The general treatment consists of warm hip-baths, iodoform, gram 0.3 (gr. v), suppositories, atropine ointment, gram 0.12-30.0 (gr. ij-ʒ j), and the application twice a week of silver nitrate, gram 0.7-30 (gr. x-ʒ j), to vulva and hymen. Gymnastics, horseback-riding, bicycling, hydrotherapy, cheerful company, and avoidance of attempts at sexual intercourse tend to remove the abnormal sensitiveness. If these methods fail, the vaginal entrance is forcibly distended under anesthesia, and subsequently a glass plug is inserted morning and evening for a couple of hours.—*Garrigues in Diseases of Women.*

Whooping-Cough.—Da Costa preferred quinine sulphate in full doses or chloral with or without bromides and a spray of sodium bromide, gram 1.3 to 30.0 (gr. xx-ʒ i), with gram 0.12 (♏ ij) of fluid-extract of belladonna added. The paroxysms are lessened in severity by:

℞ Codeinæ sulph..... 0.06 (gr. j)
Ac. carbolic..... 0.5 (♏ viij)
Syrupus.....15.0 (ʒ ss)
Glycerin.....30.0 (ʒ i)
Syr. limonis.....15.0 (ʒ ss)

Sig.: One tablespoonful every two or three hours. Keating uses a spray of:

℞ Ammon. bromid.
Potass. bromid.....aa. 4.0 (ʒ i)
Tinct. bellad.....4.0 (ʒ i)
Glycerin.....30.0 (ʒ i)
Aq. rosæ. q. s.....ad. 120.0 (ʒ iv)

The diet regulated, the clothing warm, and open-air exercise are advisable.—*Hughes in Practice of Medicine.*

Chronic Gastritis.—A strict dietetic regimen, writes Gilman Thompson, must be carried out faithfully for two or three weeks, and it is important to give minute details in writing. Meals should be regular and preceded and followed by half an hour's rest lying down, and the food must be slowly and well masticated. For severe cases milk is recommended, six to eight ounces, with vichy or soda-water and salt added, every two and a half or three hours. If there is much nausea add cerium oxalate, gram 0.2 (gr. iij), and sodium bicarbonate, gram 0.35-0.7 (gr. v-x), to each feeding. If undigested curds appear in the stools the milk should be lessened in quantity or temporarily peptonized. Some patients digest best boiled milk or buttermilk. The milk may be supplemented by fresh meat-juice, scraped beef, white of egg, and granum. Less severe cases do best on a meat diet of lean roast beef, tender rare beefsteak, chops or roast mutton with dry toast or stale bread, and a minimum of butter. Boiled rice baked potato, spinach, shredded wheat, toasted soda crackers, thin dry gingersnaps, granose, zwieback, baked apples, orange-juice, baked custard, and plain blanc-mange are all digestible, eggs, soft-cooked or raw, are borne well by some, and the soft parts of raw or stewed oysters. Foods to be prohibited are fried foods, twice-cooked meats, the coarser vegetables, sweets, pastry, cakes, puddings, and strong condiments. Omit drinking with meals. Kumyss, black coffee, hot water, beef extract or bouillon with hot water, should be taken when thirsty, and water, hot or cold, not iced, should be taken freely on retiring, on rising, and several times during the day. Moderate outdoor exercise and daily sponge-bathing with cool water, followed by friction, are to be advised when suitable. If there is a lack of gastric juice hydrochloric acid, gram 1.3 (♏ xx), may be given immediately after meals, and pepsin, gram 0.35-0.7 (gr. v-x), may be added. Pancreatin and soda bicarbonate, aa. gram 1.0 (gr. xv), half an hour after meals, and silver nitrate, gram 0.008 (gr. 1/8), in obstinate cases, are recommended. Nux vomica tincture, gram 0.7 (♏ x), may be given with gram 4.0 (ʒ j) of tinctures of gentian, cinchona, or cardamom before meals. Constipation requires podophyllin, gram 0.006 (gr. 1/10), cascara, or sodium phosphate or sulphate. Lavage is of value. In obstinate cases use a two-per-cent. alum solution; for fermentation three-per-cent. boric acid, and for mucus, five-per-cent. sodium-bicarbonate solution. In lieu of lavage, hot alkaline water taken before each meal will dislodge mucus and wash the stomach contents into the bowel.—*Practical Medicine.*

Alopecia.—When this is dependent on general morbid conditions, an exciting lotion is:

℞ Pilocarp. mur.....0.50 (gr. viij)
Ol. gaulther.
Ol. santali.....aa. gtt. 5 (gtt. v)
Tinct. cantharid.
Glycerin.
Spt. camph..... 5.0 (grs. lxxv)
Alcohol.....80.0 (ʒ iiss)

Rub lightly into scalp once a day.—*Brocq in Jour. de Med. de Bordeaux.*

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A WEEKLY JOURNAL

OF MEDICAL SCIENCE.

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SATURDAY, JANUARY 12, 1901.

BELLEVUE MEDICAL BOARD AND THE INVESTIGATIONS.

THE disclosures of disgraceful mismanagement in the administration of municipal hospitals has culminated in Bellevue's recent scandal. The abuse of patients, extortions from the poor, neglect and cruelty, are only what one might expect in an institution where every non-medical appointment is obtained through "pull," and where, it is hinted, "influence," as well as merit, is necessary for the well-being and comfort of every one within its walls. We know that every large municipal hospital in the country, the good angels of which are politicians, suffers from some of the abuses that have made Bellevue's name scandalous. But what we are not prepared for is to find Commissioner Keller, in his energetic newspaper reform, laying some of the burden of mismanagement on the medical staff. We hope that it is merely accidental that, in wielding his unaccustomed scourge, he has let the lash fall upon the men who have in spite of difficulties served Bellevue so well.

The Medical Board of Bellevue is one of the best that can be found in any hospital in this country. Its members have seen the abuses, the deficiencies, the mismanagement, at every turn; they have complained, they have protested, they have expostulated. In reply they have received promises, and with these they have had to be content.

Every physician on the Board, as well as the staff, has learned, after all his efforts at reform have been ignored, that just so much red-tape must be used in order to give the vendors of red-tape a livelihood. Therefore he has submitted to the methods in order to get what was necessary for his patients. If, in order to be sure that his patient would get an ounce of whiskey, he has been obliged to order a pint, he has ordered the pint. The amazing thing is that the physicians connected with Bellevue should have been able to do such good work against such odds.

And yet a slur is now thrown against them for having, as it were, connived at deeds of mismanagement. If they knew what was going on why did they keep silence? Of course they knew. What physician connected with Bellevue does not know the state of affairs there? But they have spoken, and have learned that they might as well try to move a mountain.

Once more we reiterate the belief that the proper mode of governing this large hospital, with its important dependencies, is by means of the trustee system, as proposed by the new Charter Revision. May this city see an early inauguration of this system.

CYCLIC ALBUMINURIA.

SINCE Cotugno demonstrated albumin in the urine of dropsical patients in 1770 for the first time, but more especially from the time when Richard Bright, more than half a century later, showed the association of albuminuria with lesions of the kidney, the significance of the relationship implied has remained scarcely unchanged through an entire medical generation. With the last few years, however, medical opinion has somewhat shifted from its original attitude and newer outlooks have abundantly widened the narrow confines of past and cherished interpretations. To many, even at the present time, the persistent presence of albuminuria is irrevocably associated with organic disease of the kidneys.

Gradually, as closer attention to detail and more perfected technic brought forward results scarcely reconcilable with older views, a few were disposed to hold themselves aloof for the traditional beliefs. The justness of such a position has been repeatedly shown in the numerous contributions of Pavy, Senator, Granger Stewart, Leube, Teissier and a host of others.

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Under many conditions it has been shown that albumin may be present apart from any existence of permanent renal lesion or acute febrile disease. The influence of strong emotions, intellectual fatigue, cold bath, etc., is a point in question; the observations of Hwass based on the examinations of more than 600 healthy soldiers clearly enough demonstrate how muscular fatigue induces the elimination of albumin for short periods. MacFarlane has again shown this in his interesting studies of the urines of football players; for twenty-four hours or more after the games the urines of these players contained not only large amounts of albumin, but numerous casts, hyaline and granular. Some like Possner have even gone so far as to state that albumin may be found in the urine of everyone; these observations amount probably to no more than that by special methods a minute amount of albumin may be detected in everyone's urine. This, however, is not what is meant by the clinical term albuminuria.

A paper on the cyclic albuminuria of adolescence, recently published by Dauchez, of Paris, will renew the interest of many on this condition to which Pavy, Teissier, and Merley have given some of their best efforts. This rather uncommon and really little-understood affection begins usually in adolescence or early adult life, being most common in boys. In some cases heredity has been shown to play an important part; and often enough the existence of cyclic albuminuria is only accidentally discovered, as in a medical examination for life insurance. Whilst some have suffered from nervousness, headache, languor, dyspepsia, and anemia, many have been strong individuals in apparently perfect health. The albuminuria is essentially intermittent, being present often only during certain times of the day. On the whole, it may be said that the albumin is not detectable, by the usual tests, in the morning; then as the day goes on the albumin appears with the approach of midday, and thereafter becomes somewhat less during the rest of the day, and sometimes entirely disappears. The position of these individuals seems to be a very important factor in the determination of the albumin elimination. If they are kept in bed during the day the albumin disappears; some exceptions to this have, however, been noted by a few observers. Casts may or may not be found; hyaline casts are not unusual, but granular casts have only occasionally been observed. These cases go on for months, or years, in this condition at the end of which time the albumin has frequently been shown to disappear, leaving the individuals apparently no worse off than others. Pavy has mentioned one case in which the intermittent albuminuria continued from youth up to the forty-third year.

The existence of these phenomena as a distinct clinical type is no longer questioned by those who have had much experience in this class of affections; most of the discussions relate to the probable pathology of the condition. Two different views are at present held by clinicians regarding the side of the question. A certain group, among them Labadie-Lagrave, recognize under the name cyclic albuminuria of adolescence a type of disease in which no true nephritis can be demonstrated; others like Lecorché and Talamon do not accept this view but believe in the existence of a partial nephritis. Critical study of this form of albuminuria certainly shows that some cases grouped under this heading are truly dependent on localized or slowly-progressing nephritis, on the other hand, investigation establishes indubitably the occurrence of a cyclic albuminuria without any evidences of tangible kidney changes other than those embodied in albuminous degeneration—a finding certainly not in itself sufficient to warrant classifying under the heading of nephritis as that term is ordinarily understood in pathology. The fact remains that all albuminuria must be regarded as pathological; to speak of it as physiological is a misnomer. It is no more physiological than a heart murmur of anemia. Evidence tends to show that cyclic albuminuria is inevitably the result of some disturbance of the normal cell activity; in some patients it is nephritis, in others the lesion is of much lesser magnitude.

The wealth of opportunities for further studies has already appealed to some investigating minds and interesting conclusions will probably not be long in forthcoming from more than one source. The practical importance of the whole question is no better shown than in its relations to life insurance.

A CHAPTER IN MEDICINE.

EXACTLY twenty-one years ago the second edition of Bristowe's excellent Practice of Medicine was issued. In it the author says: "It would seem, then, that neither heat, water, nor decomposing organic matter is alone capable of evolving the malarious poison." "The miasm may be carried by the wind," "is absorbed in its passage across water." "Is it a gas, is it some decomposing organic substance, is it a living thing?"

Just one year later, in 1880, Laveran saw the plasmodium malariæ in the red blood corpuscles

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of malarious patients in Algiers. Since that first definite observation the malarial plasmodia have been found in the red blood corpuscles of malarious patients everywhere throughout the world, thus establishing one great factor in the etiology—universality of the cause wherever the disease exists.

Nine years later Golgi differentiated two varieties of this plasmodium which differed not only in the form of the mature spherules but also in the length of time required for their sporulation—in this corresponding to the difference in periodicity of the two types, tertian and quartan agree, which require two and three days respectively for their recurrence.

A few months afterwards the "aestivo-autumnal," or crescent, form of the plasmodium was discovered and was found to be the cause of the most dangerous, or "tropical," form of malaria.

Laveran had noticed "flagellated" bodies which he regarded as especially active forms of this parasite. These Manson conceived to be spores for reproduction through mosquitoes feeding on the blood possessing them. This theory of Manson has been confirmed by the microscopical and other investigations of Major Ronald Ross in India. He found pigmented parasites in the stomach muscles of mosquitoes fed on malarious subjects, and invariably he failed to find these parasites there in mosquitoes fed on healthy or non-malarious subjects. The Anopheles was found to be the particular mosquito, preferably the Anopheles claviger, never the Culex.

Dr. MacCallum of Johns Hopkins found the flagellate bodies of the halteridium fertilizing the more granular blood corpuscles of the crow's blood in the manner of conjugation, producing thus a body containing pigment which he called a vermiculus, capable of penetrating the stomach muscle of the mosquito and thus accounting for Ross's pigment bodies there found.

MacCallum had seen this conjugation in the crescentic human form. Grassi and Koch had confirmed this observation. Thus sporulation and conjugation were both methods of reproduction of the parasite.

Christophers and Stephens found that blackwater fever was a special form of tropical malaria. Dr. Elliott protected himself in Nigeria from malaria by warding off mosquitoes. Drs. Sambon and Low have lived through a malarial season in Ostia, the most deadly region of the Italian Campagna, without taking malaria, merely protecting themselves by netting from the night-prowling Anopheles, whilst their windows were left open to the night air. Meanwhile all others resident near them, but unprotected from mosquitoes, were without exception attacked by malaria. Finally the tertian malaria has been produced in the healthy son of Dr. Patrick Manson in England by having him bit by mosquitoes sent from Italy for that purpose after they had been fed on malarious subjects.

Koch found in Africa that natives acquired a certain immunity, that this immunity was less in their children and that whites unused to malaria were peculiarly susceptible to its invasion when bitten by mosquitoes that had fed on natives in a malarious neighborhood and that quinine was a perfect prophylactic.

Here, then, is a well-rounded chapter in medical research whose value as definite scientific knowledge in its applicability to one of the most widespread of diseases, cannot be overestimated. No better illustration could be given of the progressive character of scientific medicine in the nineteenth century. Nor could a better illustration be given of the fact which is becoming more evident as time goes on, that we owe our best and most enduring advances not to any one man alone, but to the associated labors of many.

ECHOES AND NEWS.

NEW YORK.

College of Physicians and Surgeons.—Dr. James D. Voorhees of the class of '93, has just been appointed secretary of the Faculty of the College of Physicians and Surgeons.

Kings County Medical Association.—At the last regular meeting of this Association, held January 8th, Dr. L. Grant Baldwin showed specimens of uterine fibroids and Dr. Louis C. Ager read a paper on "What Determines the Real Value of Medical Papers?"

New York State Journal of Medicine.—This is the title of a new monthly periodical to be devoted to the interests of the New York State Medical Association. The chairman of its editorial committee is Dr. James Hawley Burtenshaw. We predict a useful and long life for the new endeavor.

Blackmail Protection.—A bill for the protection of physicians and surgeons from blackmail and unjust malpractice suits is also to be introduced this session. Its most important provision will be the requirement of a bond from any one bringing a suit against a physician for alleged malpractice. This bond is to be forfeited in case the judgment goes against him. This idea is based on a somewhat similar provision in English law.

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Typhoid at Cortland.—This city is the center of an epidemic of typhoid fever. The city hospital is full of patients and the management is compelled to turn applicants away. Physicians are powerless and many factories and business houses are crippled because of the illness of their employees. The cause of the epidemic has not yet been determined.

Death From Strychnine.—An inmate of the Montefiore Home, forty-two years old, is reported to have died there rather suddenly last week after taking a dose of strychnine sulphate prescribed by one of the doctors for influenza. The patient had locomotor ataxia and the dose given him is said to have been $^1/_{30}$ of a gram. This dose, ½ grain, if correctly reported, is sufficient to cause death. The man died two hours after it was administered.

Antivaccinationist Inquiry.—President Michael C. Murphy of the Health Board last week began proceedings against Dr. Montague R. Leverson of Fort Hamilton and President of the Anti-Compulsory Vaccination League, who says he has been treating cases of smallpox without reporting them. Col. Murphy had two affidavits made by men who heard Dr. Leverson make the statements in regard to his treating of smallpox. As the matter stands now, Dr. Leverson's simple statement is not sufficient, it is believed, legally to hold him. He will be called upon to retract or formally affirm the statement. In the former case, the Health Board will feel satisfied, but in the latter the Board will take immediate action. It is a criminal offense not to report cases of contagious diseases to the authorities.

Grip Epidemic.—There are hundreds of cases of grip in Albany, and that this epidemic of influenza will have more than its usual run in New York City and throughout New York State this year is evidenced by the reports received so far by the State Board of Health. Since the inception of the epidemic, in 1889, it has caused about 52,000 deaths in this State. During the first year 5000 people died of it. This was increased to 8000 in 1891 and in 1892, after which years the death-rate from this cause decreased each year to 2500 in 1898-99. The State health authorities then thought it had had its run and were surprised at its general prevalence in 1899-1900, when it caused nearly 12,000 deaths, starting in with 600 in December, 1000 in January, 1250 in February, 3500 in April, 1500 in May, 400 in June.

Tuberculous Meat.—Twenty-five carloads of tuberculous cattle have passed through or have been shipped from West Albany to New York City within the past ten days. How many head of diseased cattle have found their way into the New York City market during the recent fall months the State authorities do not pretend to estimate. A special report upon this carload was made to the State Agricultural Department by one of its inspectors, who has been operating at the West Albany Cattle Yards for several weeks past. This inspection was instituted to discover violations of the bob veal law, and the disclosures which resulted otherwise were of a startling nature. It is during the fall that the farmers weed out undesirable cattle, and agents scour the country for such animals, offering nominal prices. The carload mentioned is a sample of what has been going into New York City for some weeks to be made into bologna sausage, though the "best" cuts find a resting-place upon the butcher's block.

Coming Medical Legislation.—More than two hundred bills relating to medicine are introduced into the Legislature at every session. The recommendation of the Charter Revision Commission that a physician may hold the office of President of the Board of Health in this city is regarded by medical men as of great importance. At the last session of the Legislature a bill making a similar amendment to the charter of the greater city received the endorsement of the State Medical Society, and that body, as well as the Association, will use its influence again this year in favor of the revised charter provision. As most of the questions dealt with by the Health Board in its regular routine are medical questions, a doctor who acts from his own knowledge can often be more efficient than a layman who has to depend upon others for expert advice.

Midwife Regulation.—A new bill for the licensing and regulation of midwives is another which will be pushed. As will be remembered, the bill introduced last year by Senator Plunkitt for the same purpose passed Senate and Assembly, and was signed by the Mayor. Gov. Roosevelt, however, withheld his signature. The new bill, it is understood, will differ from the old chiefly in that it designates the Board of Regents of the State of New York, instead of the City Board of Health, as the body intrusted with the prescribing of regulation, the conduct of examinations, and the issuing of licenses. This change, it is said, removes the cause which kept the Governor from signing the bill last year. It is thought safer to vest the large discretionary powers in the Regents than in a possibly Tammanyized board appointed from among the sanitary inspectors. Many doctors think it out of the question to abolish midwives entirely, but it is hoped that by a rigid examination ignorant and criminal women can be driven out of the profession and its standard gradually raised. At present licenses are granted to midwives by the Board of Health on the recommendation of two physicians.

Gouverneur Hospital Open.—The new Gouverneur Hospital building at the foot of Gouverneur Street was thrown open to the public last week for inspection. There was no formal ceremony, but about five hundred persons took advantage of the opportunity to make a tour of the hospital. The building is four stories high, of brick, has a frontage of 125 feet and extends back about 175 feet. With its equipments it cost $200,000. The decorations are of white enamel,

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even to the chairs, which lends a very bright aspect to the interior. The building is fireproof and everything in it is of the latest design. The hospital will begin to receive patients this week, when the patients in the old hospital will be transferred to the new one. On the first floor of the building is the office, the doctor's reception room and the medical board room. There is also the accident ward and the children's ward, which contains twelve cots. The male medical ward has twenty-eight beds and is on the second floor. The nurses' bedrooms, sitting-room and head nurse's room are also on this floor. On the third floor is the male surgical ward. This has accommodations for twenty-six patients. The operating-, receiving- and sterilizing-rooms are on the top floor, with the women's ward, which has twenty-four beds, the kitchen and laundry.

Expert Testimony and Legislation.—Some sort of bill will doubtless be introduced regarding the regulation of medical expert testimony in the courts, and possibly for the licensing of experts. The reintroduction of last year's bill requiring the use of a certain type of bottle for the putting up of poisons and certain other drugs is also expected. This bill passed both Senate and Assembly last year, but was never signed by the Governor. If enacted, it would apparently operate chiefly for the benefit of the manufacturers of the required sort of bottle. The State societies introduce no bills of their own this year, and their Committees on Legislation will probably report adversely on at least 90 per cent. of the bills introduced from other sources. Without the strong support of the medical profession, it has not been easy in the past to get medical bills through the Legislature. Legislators can hardly be blamed for thinking that "when doctors disagree" it is not for them to decide. Said a man long identified with medical legislation: "A united medical profession has great influence in the Legislature of the State, and it should be the duty of medical societies to consider the practical solution of questions relating to sanitation and public health. If they can agree upon a bill that has for its ultimate object the benefit of the public, the support given by the Legislature is surprising."

PHILADELPHIA.

Officers of Obstetrical Society.—At the regular election held January 3d the following officers were elected for the ensuing year: President, Dr. John C. DaCosta; Vice-Presidents, Drs. J. M. Fisher and Geo. M. Boyd; Secretary, Dr. Frank W. Talley; Treasurer, Dr. John G. Clark.

Obituary.—Dr. R. J. Linderman, a former Bucks County practitioner, but for seven years a resident of this city, died January 6th of heart and kidney disease. Dr. Linderman served one term as State senator and held other public offices in addition to caring for an extensive practice.

Prevention of Tuberculosis.—At the January meeting of the Board of Health, committees from the County Medical Society and the Society for the Prevention of Tuberculosis urged that the following measures be adopted: (1) The registration of all cases of tuberculosis by the Board of Health; (2) the distribution of circulars of information for the prevention of the spread of the disease and for measures to check its development; (3) the sending of assistant medical inspectors to the homes or residences of all poor consumptives with instructions and supplies for fumigation and treatment of the disease; (4) the disinfection by the Board of Health of every room or dwelling at any time occupied by a consumptive; (5) the registration for record at the Board of Health of every house in which the disease has existed at any time. The matter will be held under advisement by the Board of Health until it is decided whether compulsory registration is legal under the Act of 1895.

College of Physicians.—At the meeting of January 2d, Dr. John H. Gibbon reported an interesting case of gall-stones in which symptoms of appendicitis had been present. A supposed abscess of the abdominal parietes below and internal to the right iliac crest was found to lead directly into the gall-bladder, which was unusually low in the abdomen and contained more than fifty stones. Dr. R. G. Le Conte reported the two cases of operation for cirrhosis of the liver, noted in these columns December 22d, and gave a summary of the literature on the subject. The discussion, participated in by Drs. Deaver, Meigs, and others, showed a general belief that operation in the great majority of these cases promises but little. Through the courtesy of Mrs. Joseph Leidy, Jr., an oil painting of the late Dr. Joseph Leidy was presented to the College, Dr. S. Weir Mitchell accepting the gift in behalf of the institution. The regular election of officers for the College resulted as follows: President, Dr. W. W. Keen; Vice-President, Dr. H. C. Wood; Secretary, Dr. Thomas R. Neilson; Treasurer, Dr. Richard H. Harte.

Academy of Surgery.—At the meeting of January 7th Dr. Henry R. Wharton delivered the annual oration, taking as his subject "Wounds of the Venous Sinuses of the Brain." Five cases of his own and 65 from literature were reported. Treatment is not difficult when there is an external opening. If trephining be necessary it should be done at the point of traumatism rather than according to symptoms. The most important point is careful asepsis. Gauze packing is Dr. Wharton's choice of methods in controlling hemorrhage. Sutures may be tied in bow-knots, thus making the insertion of new sutures unnecessary when the packing is removed in from three to six days. The only objection to this method is that the open wound may prove an avenue of infection. Ligation allows closure of the wound, but is dangerous in itself and is not best in ordinary cases. Dr. R. H. Harte stated that judicious suturing would do much in some cases. Where the hemorrhage is great packing must be used to control it. If the hemorrhage can be stopped by

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the finger or other means, suturing will often do well. Dr. Rodman believes that packing is more reliable than ligatures or sutures as the hemorrhage should be controlled with extraordinary rapidity. The ligation of cerebral vessels is not satisfactory. Next to gauze packing forceps are the most reliable in controlling hemorrhage.

CHICAGO.

Will of Charles Higgins.—The will of the late Mr. Higgins, which has been filed for probate, stipulates that St. Luke's Hospital shall receive $10,000.

Sarcoma of the Pituitary Body.—Dr. Carl G. Swenson reported this case before the Chicago Medical Society, January 2d. Microscopic sections of the tumor of the pituitary body showed small and large round-celled sarcoma with occasional multinuclear giant-cells, and much congestion and hemorrhage.

Need for Vaccination.—There is no occasion for alarm in the fact that a few cases of smallpox have been discovered in this city and that the health authorities are taking strict measures to prevent its spread. The chief element of danger lies in the fact that recent cases have been discovered in the down-town district, and hence it is probable many people were exposed to the disease. Immediate action in the matter of vaccination is therefore the more advisable.

Free Duty on Pathological Specimens.—At a recent meeting of the Chicago Medical Society a resolution was offered and adopted that pathological speciments, which are now taxed at 20 per cent. on the cost of their production, should be admitted duty free, as they are used exclusively for scientific purposes and are of no commercial value. A copy of the resolution was ordered to be transmitted to each Senator from Illinois, and each member of Congress from this city.

Epithelioma and Healed Lupus.—Dr. David Lieberthal presented an interesting case of epithelioma which developed in the scar of lupus. Dr. Arthur Dean Bevan has seen a number of cases of epithelioma developing in lupus scars. He has likewise observed several cases of epithelioma developing in scars from burns and from lacerating injuries. He advocated surgical operations for the removal of the grossly-involved tissue and covering the surface with grafts.

Limitations of Clinical and Microscopical Evidence.—Dr. William K. Jaques read a paper on this subject. The microscope, with careful technic, at times gives results with almost mathematical accuracy which cannot always be claimed for the diagnosis dependent upon clinical symptoms alone. But in the use of the microscope the physician should keep in mind that most often the greatest safety of his patient and his own best mental development come through the close study of the clinical phenomena of disease.

Chicago Surgical Society.—At a meeting, held January 4th, Dr. L. L. McArthur showed a patient illustrating the Talma operation (operative establishment of collateral circulation) in cirrhosis of the liver. Dr. M. L. Harris reported a case upon which he performed the same operation in February, 1900, with an excellent result. Dr. Harris showed two cases of hip-joint disease treated by the Phelps method, the results being eminently satisfactory. Dr. Jacob Frank showed a man, seventy-one years of age, with an angioma of the tongue. He argued against operation in such cases, unless the growth of the tumor is rapid. Dr. John B. Murphy discussed the subject of surgery of the arteries. Dr. F. S. Coolidge mentioned some new points in tendon surgery. Dr. McArthur presented a specimen of circular adenocarcinoma of the rectum, which was removed by the Kraske operation without the disturbance of the sacrum.

GENERAL.

Plague Outbreaks.—The reports of an outbreak of the plague at Vladivostock in Russia are confirmed. There have been 19 cases, of which 15 were fatal. Four plague patients are still in the hospital and numbers are isolated.

An Antique Mosquito Remedy.—E. H. Plumacher, United States Consul at Maracaibo, has sent the following report to the State Department: "A simple remedy against mosquitoes has been employed in several places in South America and is equally well adapted to the temperate zone. It consists in planting the castor-oil plant around the house and premises." This is an old and exploded idea.

Enteric Fever and Smallpox in Galveston.—According to the report of the Marine Hospital Service there are a large number of cases of enteric fever prevalent in Galveston, Texas. One can only estimate them, for there is no ordinance that requires them to be reported to the Board of Health. Dr. William Fischer, former Health Officer, estimated the number about 450. There are 6 cases of smallpox and a considerable number of diphtheria and scarlatina.

San José Medical College.—The decision of The Philippine Commission in regard to the San José Medical College case (the point being whether that institution is owned and controlled by the United States Government or by the Church) unanimously refers the settlement of the questions involved to the courts, and provides Trustees, who, with the assistance of the Attorney-General of the Philippines, will inaugurate and prosecute the litigation. The sum of $5000 is appropriated for the expenses of the suit.

Pan-American Congress.—The Third Pan-American Medical Congress will be held Ferruary 4th to 8th inclusive. Delegates can go either by the land-routes, which are all *via* Florida, or by the water-route from New York City. Those coming from south of Washington and west of Pittsburg will probably select the Flor-

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ida route, while those from the northeast will find the Ward Line more convenient. The steamer "Seguranza" of the Ward Line leaves New York January 30th, arriving in Cuba on February 3d, the day before the beginning of the Congress. The new Ward Line steamer "Morro Castle," holding 135 cabin passengers, leaves Havana on February 9th, reaching New York February 11th. The round trip is $70.00. Any one going *via* this route will be absent from New York twelve days. All information regarding transportation may be had from Dr. H. L. E. Johnson, 1402 L Street, N.W., Washington, D. C.

Any of the delegates going down by the Ward Line who desire it may, by a supplementary payment of $25.00, return *via* Santiago. This trip will take from ten to twelve days, during which time the passengers live on the ship and have their meals there if they so desire. The party goes from Havana by rail to Cienfuegos in one afternoon, there taking the steamer to Santiago and from Santiago to Nassau in the Bahamas, and from Nassau to New York. The stay in these different ports will be for a day or more. There seems to be a great deal of anxiety on the part of the delegates going to the Congress about the accommodations for themselves and the ladies of the parties. This has been most elaborately attended to by the Reception Committee, of which Dr. A. Glennan, the Health Officer of the port of Havana, is chairman. Dr. Glennan has put the Government steam launches at the disposal of the Reception Committee. This Committee is composed of English-speaking Havana physicians and an auxiliary committee of ladies. When the steamers arrive from the different countries these launches will put out with the members of the Reception Committee, male and female, and will take the delegates and their families from the steamers in the launches. *La Lucha* says: "The Reception Committee is arranging to have a ladies' auxiliary committee from Havana's best society, which will meet the guests on their arrival in order to greet with becoming dignity the ladies in the parties of the delegates." They will accompany the guests to their hotels and help them install themselves and show them every attention during their stay in Cuba. The best hotels in Havana are the Telegrafo, Mascotte, Inglaterra and Pasaje. Rates are $3.00 to $5.00 per day for board and room, American plan, the prices depending on the size and location of the room. The latest news from Cuba is that the Information Bureau will be at 105 Prado, Havana. The American headquarters will be near by.

According to present indications it is judged that there will be about 1500 delegates at the Congress. Of these probably 500 will be Cubans, 300 or 400 from the United States, 200 from Mexico, 100 from Argentine Republic and Uruguay, 50 from Brazil, 50 from Venezuela, and as many more from Colombia and other countries. There will be also quite a delegation from Chili and Peru which could not have attended the December meeting of the Congress, as it would have interfered with the Latin-American Medical Congress which was to have taken place there at that date.

Preliminary programs have been received from about half of the sections, these only represent papers that have been reported to the Secretary in this country, all the titles that have been sent to Cuba not having been sent to him as yet. The final program will not be made up until a few days before the Congress begins.

The Entertainment Committee has arranged a program which adds an attractive feature to the meeting. During the week there will be numerous excursions and entertainments for the delegates, both in Havana and the neighboring cities. A large ball will be given at the Tacon Theater. This will be under the management of a subcommittee and an auxiliary ladies' committee. The committee is sparing no pains to make the ball the great social feature of the week. On another day an excursion will be made to the sugar plantation of Mr. LaCoste in Santa Lucia, near Havana, on the Government transports. Refreshments will be served at the plantation or on the vessels. Mr. Ramon Pelayo has invited the members of the Congress to his plantation, Rosario, one of the largest in Cuba, where he will entertain them at luncheon or dinner.

Mr. Pessant will take the delegates to his establishment on the other side of the Bay and will entertain them there. The Association of Dependientes has also volunteered to entertain the delegates during their stay in Havana. There will also be an excursion to Matanzas to see the Caves of Bellamar in the Yumeri Valley.

It is requested that all delegates intending to go to Havana send their names to the Secretary, Dr. Guiteras, in order that he may determine how many will be present from this country.

Bellevue Medical Board and Dr. Moore's Dismissal.—It seems probable that the Medical Board of Bellevue Hospital will refuse to recognize the orders of Commissioner Keller, who has nominally suspended Dr. Moore on charges. There was a meeting of the Board on Tuesday last and the suspension of Dr. Moore was disapproved. When the report of the meeting was given to the Commissioner he refused to accept it.

Bellevue Appointments.—Commissioner Keller has removed Superintendent O'Rourke and appointed Dr. George Taylor Stewart to this office. Dr. Stewart was formerly connected with the Manhattan State Hospital. Since Dr. Stewart's accession a number of attendants have been dismissed for intoxication. The custom which heretofore has prevailed of employing alcoholic ward graduates will fortunately be done away with. So says Dr. Stewart.

Mills Training School.—As a result of the charges of brutality made against the pupil nurses of the Mills Training School on duty in Bellevue Hospital more than one-half the students in the school have been dismissed, have resigned or are about to leave.

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CORRESPONDENCE.

ARMY MEDICAL CORPS.

To the Editor of the MEDICAL NEWS:

DEAR SIR: Your attention is called to the fact that there is at present pending in Congress certain proposed legislation that seriously disturbs the present status and efficiency of the Medical Corps of the United States Army.

The proposed law is entitled "An Act to Increase the Efficiency of the Military Establishment of the United States" (Senate Bill 4300), and in a very general way modifies the existing organization of the Army, while at the same time it provides for a damaging and offensively invidious discrimination against the Medical Corps. This fact is shown in the following particulars:

1. It decreases the percentage composition of the Corps in the grades of colonel from 3.1 per cent. to 2.4 per cent.

2. It decreases the percentage composition of the Corps in the grade of lieutenant-colonel from 5.2 per cent. to 3.7 per cent.

3. It decreases the percentage composition of the Corps in the grade of major from 26 per cent. to 18.6 per cent.

4. It increases the percentage composition of the Corps in the grade of assistant surgeon with the ranks of captain and first lieutenant from 65 per cent. to 74.7 per cent.

The significance of these proposed changes can be understood when it is remembered that, even under the existing law, it requires more than eighteen years to reach the grade of surgeon with the rank of major, while under the proposed law it will require at least twenty-five years to reach the same grade and rank. With this fact reduced to a mathematical demonstration, the inevitable result will be, first, that the more worthy young men will not apply for commission, and, secondly, that the relatively less worthy men who do enter the service, discouraged by the certain impossibility of reasonably prompt promotion, will resign, leaving their places to be filled by untrained and consequently less efficient men. The ultimate disaster from this contemplated change, however, will consist not alone in a lowered status of the medical service but in (1) increased disease and death-rate among the men, (2) a diminished and otherwise weakened force on the firing line, and (3) a material augmentation of the pension-roll.

In view of the foregoing facts and in view of the fact that every other corps of the Army is better graded than is the medical, every member of the medical profession is hereby earnestly solicited to send at once to his United States Senator and Congressman an urgent and emphatic protest against the proposed provisions in Senate Bill 4300 relative to the Medical Corps of the United States Army.

CHARLES A. L. REED, M.D.,
President of the American Medical Association.

OUR LONDON LETTER.

[From Our Special Correspondent]

LONDON, December 29, 1900.

THE EPIDEMIC OF ARSENICAL POISONING FROM BEER-DRINKING—REPORT OF THE MEDICAL OFFICER OF HEALTH FOR MANCHESTER—NUMBER OF DEATHS FROM PERIPHERAL NEURITIS DOUBLED IN MANCHESTER—INFANTS POISONED BY THEIR MOTHERS' MILK—THE DIFFERENCES BETWEEN THE STAFF AND BOARD OF THE NATIONAL HOSPITAL FOR THE PARALYZED AND EPILEPTIC—FAILURE OF THE PROPOSED INQUIRY—AN "IMPERIAL PHARMACOPŒIA"—THE USE OF BORIC ACID AS A FOOD PRESERVATIVE UPHELD.

DR. NIVEN, Medical Officer of Health of Manchester, has issued a very important report on the "epidemic" of peripheral neuritis due to drinking arsenical beer. Directly on ascertaining that arsenic had been discovered in a sample of beer, he improvised a laboratory and examined the brewing sugars used in the twenty Manchester breweries and the glucose used in the manufacture of jams and cheap sweets. In forty-six specimens of glucose from the breweries arsenic was found only in that emanating from one firm which contained it in considerable amount. Five of the twenty breweries were using this material. The glucose used in manufacturing the sweets was free from arsenic. It appears that about 2000 cases of arsenical poisoning from beer-drinking have come under observation in Manchester. No doubt in addition to these there must have been a large number of milder cases which were never seen. No cases have yet been authoritatively described in which death was due to arsenical poisoning, but the mortality statistics give important information. The deaths from peripheral neuritis have nearly doubled in 1900. Moreover, the difference is confined to recent months, for up to the May there were only five deaths from this cause. Taking the first 48 weeks in the years 1897, 1898, 1899, and 1900, the deaths from peripheral neuritis in Manchester were 11, 17, 18, and 39, respectively. Again, taking together the deaths from the following diseases (in which arsenical poisoning may have played some part) *viz.*, peripheral neuritis, neuritis (other), alcoholism, and cirrhosis of the liver, the figures for these periods are 172, 141, 188, and 253, respectively. In my last letter I briefly described the principal symptoms observed in this remarkable epidemic. The following statistics of 54 observers supplement what I have said. Only 6 recorded the absence of eruptions. Tenderness of the calf on pressure was absent in only 5 observers' experience. Pain, swelling and tenderness of the feet were observed by 34. Paralysis or paresis was noted by 48. Many remarked on the great increase in the number of cases of herpes zoster. Pigmentation of the skin varied from golden yellow patches on the face, chest and feet, to more extensive bronzing and a deep mulatto pigmentation covering the front of the chest and recalling Addison's disease. Edema was of frequent occurrence. Several practitioners drew attention to loss of memory and delusions. Persons of all ages and both sexes suffered. Dr.

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Kelynack, Assistant to the Professor of Medicine, Owen's College, Manchester, has described a very interesting case in which an infant at the breast was poisoned by its mother's milk. A woman, aged thirty-two years, drank stout after her confinement. At the end of five weeks she experienced "numbness" of the fingers, "jumping" in the feet, "running and smarting" in the eyes, and became hoarse. At the same time the child began to vomit whenever it suckled. The mother had tearful eyes, marked erythema and keratosis of the feet, and sensory symptoms in the distal parts of the limbs. Walking was very painful. There had never been nausea, vomiting, or diarrhea, and the secretion of milk was plentiful. The infant was puny and much wasted and it snuffled. Its feet were slightly erythematous. The mother was directed to cease taking stout, to stop nursing and give the baby cow's milk and barley-water. Both improved at once and the baby ceased vomiting. An analysis of the mother's milk failed to disclose the presence of arsenic. The clinical features, however, are sufficient to warrant the diagnosis of arsenical poisoning of the infant from the milk. A similar case was observed in another infant whose mother was recovering from arsenical neuritis. The baby had furred tongue, gastro-intestinal catarrh, vomiting and diarrhea. A few days after weaning it was quite well. A case of arsenical poisoning occurred in a little girl of two, the daughter of a publican. She was petted by the customers who were in the habit of giving her "sups" of beer.

The differences between the medical staff and the Board of the National Hospital for the Paralyzed and Epileptic are, I regret to say, no nearer a settlement. At the request of the Lord Chancellor, who is a member of the Board, an eminent lawyer, the Right Honorable Sir Ford North, consented to conduct an inquiry into the allegations of the staff concerning the care, comfort and treatment of the patients. The medical staff has very properly refused to recognize the proposed inquiry for three reasons: First, the tribunal has been constituted by only one of the parties to the difference; second, the scope of its action is limited to domestic condition of the hospital and excludes the subjects of its constitution and management; third, although dealing with questions purely medical, such as the diet, care, treatment and the nursing of patients, it was to be conducted without medical assessors. The staff also complains that, although the resolution of the Board with regard to the proposed inquiry was passed on November 2d, it was not communicated to them until December 6th, when, although they were invited to appear by counsel, it had only four days in which to instruct counsel for the purpose. As I have already informed you, the staff previously refused to take part in any inquiry of a restricted character which did not include the points of difference to which they themselves attached supreme importance. The consequence is that the proposed inquiry has had to be abandoned. Thus this valuable institution is torn by a controversy which must seriously impair its efficiency, if not destroy it altogether.

An additional link between the several portions of the British Empire has just been forged by the General Medical Council. At one time a Pharmacopœia was issued by each of the Colleges of Physicians of London, Dublin, and Edinburgh, each of which was the legal authority for the corresponding divisions of the United Kingdom. Naturally this caused much inconvenience, for the preparations varied in strength in the different countries and an English druggist was much inconvenienced by the occasional prescription of a Scottish preparation or *vice versa*. Hence, the issue by the General Medical Council of a general Pharmacopœia applicable to the whole of Great Britain was hailed as a great convenience. This "British Pharmacopœia" was prepared by a committee containing members from each division of the United Kingdom and incorporated what was best in the local Pharmacopœias. It received the sanction of an Act of Parliament and every druggist was bound under penalties to sell only what was in accordance with its standards of strength and purity. About every ten years it has been the custom of the Council to issue a new Pharmacopœia so as to include all new preparations of sufficient importance and reject others which have fallen into desuetude. Now, many medicinal plants and other substances considered to be valuable are in constant use in India and the colonies and comparatively unknown in England. It has been decided that those of sufficient importance should be brought under official recognition so as to insure a proper and uniform standard of activity. The result will be to supersede the British Pharmacopœia by an "Imperial Pharmacopœia" embracing the pharmacy of the whole Empire. As a first step in this direction the committee has been engaged, with the assistance of the Indian and Colonial Governments, in procuring from all parts of the Empire the necessary information from medical practitioners, scientific societies, and all other bodies and persons likely to be in a position to afford it. The first result has been the publication of an "Indian and Colonial Addendum" to the British Pharmacopœia, containing the necessary details with regard to plants or substances which in the country yielding them may be employed as substitutes for those in the British Pharmacopœia. Thus in India there are several kinds of bland, native vegetable oils which may be used in place of olive oil and there are native plants which may be used to replace others which would be rendered unduly costly by importation. Moreover, an official character is now given to medicines which have been used from time immemorial by the natives and which possess qualities which have stood the test of scientific investigation. The addendum will be subjected to the criticism of the medical authorities in the localities in which it chiefly applies, and will eventually in some amended form be incorporated with the original work. The attention thus devoted to Indian and Colonial plants cannot fail to further the advance of therapeutics in general.

The question whether boric acid is injurious when used as food preservative has been of late

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the subject of much discussion and litigation. Among authorities considerable divergence of opinion prevails. A case of considerable importance which allows the use of boric acid has just been decided. A provision dealer was summoned by a food inspector because his butter contained 0.8 per cent. of boracic acid. The medical officer of health for the county of Wilts, in which the case occurred, gave very strong evidence for the prosecution. He said that boric acid was an unnecessary and dangerous addition to food and caused infantile diarrhea and occasionally death. In cross-examination, however, he failed to give any instances. The medical officer of health for Southampton then testified to the entire harmlessness of the preservative in the quantities found in this case and to its great value and increased use in medicine; but he drew a sharp distinction between its use in milk which is consumed in considerable quantities by children and invalids and its use in butter, of which no one would eat enough to experience any effects from the acid. A provision merchant gave evidence as to the necessity of a preservative of this class and gave figures to show the great falling off in the sale of old-fashioned salt butter since preserved butter was introduced.

TRANSACTIONS OF FOREIGN SOCIETIES.

German.

UTERINE INFECTION—MYXEDEMA AND THYROID EXTRACT—ABNORMAL LENGTH OF THE SIGMOID FLEXURE—SYPHILITIC HYDROCEPHALUS—HEMORRHAGE FROM THE CEREBRAL SINUSES—FIXATION OF THE SCAPULA TO THE RIBS AFTER EMPYEMA—THE O'CONNOR ELEVATOR IN SHORTENING OF THE LOWER EXTREMITY—GELATIN AND ANEURISM—RUPTURE OF THE SMALL INTESTINE—ACQUIRED DEXTROCARDIA—RECTAL EXPLORATION AND ITS RELATION TO INCISIONS FOR APPENDICULAR ABSCESS—NEW FORM HEMOGLOBINURIA—RARE SITES OF PRIMARY SYPHILITIC LESIONS.

SCHAEFFER, at the Berliner med. Gesellschaft, November 7, 1900, discussed infections proceeding outward from the uterus, which was the subject of C. Abel's paper at the preceding meeting. His points were in brief that iodoform gauze is an excellent means of dilatation; vaporization is of little value because the experiments of Flatau show that the temperature at which the steam reaches the uterus is too low to be of value; lysol douches are equally of little efficacy; extirpation applies well in selected cases but its indications are not yet fully determined; cold packs for the reduction of temperature are very useful and comforting as they are usually followed by heavy perspiration.

GOTTSCHALK said that true septic and merely sapremic endometritis must be differentiated. The latter yields at once to clearing out of the contents of the womb. Intra-uterine irrigations of a one-per-cent. solution of soda are more satisfactory than lysol douches. Dilatation with instruments causes hyperemia which is to be avoided. Local use of alcohol fails just as do other disinfecting means. Removal of the womb has not been satisfactory in his practice. The most important two things are sustenance with good food and proper stimulation preferably with some form of alcohol. Sodium salicylate on account of its causing leucocytosis is valuable and quinine did wonderful service in one case of pyemia. Most of the so-called septic abortions are only sapremias pure and simple.

H. NEUMANN said that as in myxedema in the adult so in sporadic cretinism with or without idiocy thyroid extract works wonders. There occur decrease of the unhealthy fat body, increase in growth, rapid development of the teeth and improvement in the bodily functions. Absolute cure he has never seen, but the earlier the treatment is begun the more rapid and satisfactory are the results. Such cures may often be lost by the fact that the disease is often confused with rachitis, which is really often associated with it. The disease really occurs rather frequently.

STOLZNER, at the meeting of November 14th, said that in the last two and one half years at the Heubner Polyclinic he had treated five cases of infantile myxedema with favorable outcome. One was apparently completely cured. The others were much improved but it was a question how far the mental development would continue. Too much emphasis cannot be laid on a distinction between cretinism and rachitis.

EWALD reported three cases in the polyclinic of of the Augusta Hospital and presented one. As in the treatment of adults so of children the thyroid extract must be continuously given and in ever increasing dose. He has one adult who is now taking very large doses. The system appears to become accustomed to the medication but unfortunately not to its occasional deleterious effects. To counteract such he now uses arsenic.

DETERT, at the Verein für innere Medicin in Berlin, November 5, 1900, reported the case of a two-and-one-half-year-old child with obstinate occlusion and partial displacement of the sigmoid colon. The treatment was by high intestinal injections. After the sound had passed a certain distance up it encountered an obstruction diagnosed as the lower end of the upper segment of the bowel, situate about thirty centimeters proximal to the anus. When the sound passed this considerable flatus was voided. The prognosis appeared uncertain though the treatment would be continued.

NEUMANN stated that in literature there is only one full cure of hydrocephalus mentioned—Heller. This was probably syphilitic like his own case reported. Three weeks before coming under his care the three-year-old baby had begun to show distinct signs of hydrocephalus, spreading of the fontanelles and sutures, typical hydrocephalic appearance, depression of the mental faculties, wrinkling of the skin, and enlargement of both the liver and spleen. Iodide of potash 0.25 gms. daily to a total of 75.0 gms. (4-1100 grains) cured rapidly and very fully. Even an early affection of the eyes (clouding of the retina, obscuring of the papilla and scattered spots) also disappeared.

BERTLELSMANN, at the Aerztlicher Verein in

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Hamburg, November 13, 1900, brought forward a woman cured of intracranial hemorrhage from the sinuses. She had been knocked down by wagon and fell against a sharp stone upon the occiput. At first she was unconscious and later mentally clear. This was followed by delayed signs of cerebral damage. These were: Stupor, pupillary inequalities, numerous epileptiform seizures, vomiting, slow irregular pulse. Operation was at once determined upon because edema of the lungs was imminent and although the interval of consciousness made it difficult to be certain of the site of the damage, secondary hemorrhage was the final diagnosis. There were no signs of bleeding from the middle meningeal artery, therefore it was decided to explore the site of external injury. Here a fissure was found crossing the sagittal suture at an acute angle. Upon removing a large bone-flap, free evacuation of blood occurred followed by better pulse-conditions. Exploration of the lower corner of the wound caused violent flow of blood indicating wound of a sinus, which had to be packed at once. Noteworthy in the after-course of the case are the following facts: A two-day active jactitation and stupor followed with also a slight attack of spasm accompanying; on the twelfth day after the operation consciousness complete for the first time; absence of patellar reflex from the fifth to the ninth day; removal with no bleeding of the tamponnade on the twenty-first day; slight recurrence of stupor directly thereafter with acute moderate dilatation of the heart and various slight cerebral excitement of very temporary duration, and evanescent right ocular rectus internus paresis with double vision. At the present time the patient is in good condition, free from either psychic or somatic lesions and able to earn her own living.

SICK introduced before the meeting a patient who had been under treatment for one year for tuberculous empyema which had a history of three years' standing. The ribs had been resected and various thoracoplastic procedures followed until cure resulted. As an after-effect there had occurred ankylosis between the ribs and the scapula which caused loss of function of the arm. In order to restore this the lower half of the scapula had to be resected. The use of the arm had returned to the degree of permitting him to earn his living, although there was considerable deformity.

WIETING had a patient with one lower extremity twenty centimeters shorter than its fellow, for which he had successfully applied the O'Connor elevator, designed essentially to improve the cosmetics of the case by doing away with the heavy clumsy thick sole and make the foot of the affected resemble that of the normal side. The body-weight is not received on the horizontally placed but a strongly oblique sole, so that the foot is brought somewhat into the equine position, but without making the patient walk on his toes. Through obliquely placed blocks the sole of the foot really takes the weight upon the slanting base of the boot. The apparatus really consists of two boots, outer of the usual appearance, and inner consisting of this aluminium splint with leather shoe-like covering to fasten the foot to it. The whole device weighs about four pounds.

RUMPF took up the subject of injections of gelatin in the treatment of aneurism with particular reference to the experiments of M. Schmidt and the recommendations of Lancereau to use a two-per-cent. solution and one hundred cubic centimeters at a time. He had had his patient under observation for one and one-half years, an aged inmate of a hospital and retreat. In January, 1900, there developed a tender place over the third rib which slowly became an erosion through an aneurismal sac with all the signs of pulsation, etc., until finally a hen's-egg sized tumor was present. The injection above described was resorted to with the result that in a short time another was necessary. After that the tumor disappeared and apparently cure was brought about. After this persisted a few months slow relapse appeared till now the conditions were just what they had been in January. The treatment was to be repeated and the results of it would be shown to the society at a later period.

RINGEL reported a case of rupture of the small intestine in a gardener with very marked kyphosis. He fell from a tree upon his abdomen and showed, on admission to the hospital, small thready pulse, fever, dulness in the flanks and signs of beginning peritonitis. Immediate laparotomy was done. The jejunum was found ruptured high-up for three inches and sewn. The abdominal cavity was filled with intestinal contents and the peritoneum was slightly involved. Its toilette was carefully attended to and the parieties were closed *without drain*. An almost fever-free course followed, interrupted only by a small mural abscess.

LOHSSE, at the Med. Gesellschaft zu Madgeburg, October 11, 1900, described the clinical picture of a case of dextrocardia acquired through collapse of the right lung, through phthisis of that side progressing since 1893, at which time the heart was still situated in its normal position. The following are the details: Absence of heart dulness and in the skiagram of the heart-shadow on the left side; pronounced emphysema of the left lung carrying its right limits over to the right margin of the sternum; great enlargement of the left chest; pulsation in the fourth interspace near the anterior axillary line and in the fifth interspace near the parasternal line; cardiac dulness beginning at the lower border of the fourth rib near the anterior axillary line, following this rib inward and in the parasternal lining turning down toward the midline; heart sounds at their acme over this same area; infiltration of the upper part and cirrhosis of the lower part of the right lung; great pleural thickening evidenced by marked dulness and feebleness of breath and voice sound; sinking-in of the right chest until five centimeters smaller than the left; no subjective circulatory symptoms; right radial pulse the stronger; tubercle bacilli in the sputum. This dextrocardia is almost certainly acquired, because seven years ago when his lung trouble began, so far as can

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be ascertained, the heart was in its correct site. Moreover, through the past year the cirrhosis of the right lung has influenced it. The present position of the heart was only partially indicated by the radiograph, and was still further to be examined and established on cadavers by Garnier and Bard, who found the heart as a whole may be pushed to the right, the base and apex maintaining a normal relation. Still further in evidence is the fact that the attachment of the pericardium to the diaphragm is such that experimentally the heart can not be twisted on its base so as to displace the apex to the right. Again the physical signs in this case disprove this because the base was evidently up and to the right, while the apex remained down and to the left, each with widely separated and distinct pulsation corresponding to the length of the heart. The difference in the radial pulses probably bespoke a kinking in the branches of the aorta. In literature such cases are rare, but none is of so large a degree of displacement.

LANGEMAK, at the Rostocker Aerzteverein, September 8, 1900, brought out the point that there is still too little unanimity between the internes and the surgeons in the treatment of appendicitis and that more and more surgeons are joining the school of immediate operators. But in one point there is no difference of opinion, namely, that palpable purulent exudates about the appendix always deserve surgical treatment. The widely different positions of the appendix and hence of the exudate must determine to a degree the avenues of approach. For years it has been known that the relation of the appendix to the true pelvis renders its symptoms often like those of disease of the adnexa and hence the vagina is a convenient route for evacuating abscesses so situated. In males and in female infants such abscesses will be near the rectum. In the clinic at Rostock, Professor Garré has operated on a number of patients in this way and the speaker praised this avenue as easy and direct in selected cases. Hence is recommended exploration of the rectum in all cases of appendicitis with a view to following that as a route to the abscess.

L. MICHAELIS stated the following history: A woman had had a ruptured tubal pregnancy, resulting in a small retro-uterine hematocele and blood free in the abdominal cavity, then collapse. The hemoglobin was at this time twenty-five per cent. and the blood contained single small kernel-like bodies. Saline infusion was resorted to, followed by improvement in a few days. Four weeks later the hemoglobin was seventy per cent. On the day after admission the urine was blood-red, with a few granular casts, a little albumin, some blood pigment but no blood cells. The next day the albumin and hemoglobin disappeared from the urine. On the twenty-fifth day sudden rise of temperature to 38.6° C. with chilliness and renewed attack of the hemoglobinuria even more severe than the former. Three days later normal urine again and after eighteen days of further observation was still normal. This interesting case the speaker sought to explain with the help of Bordet's hemolysine of the hypothesis of Ehrlich-Morgenroth and held that it should be regarded as the first example of autolysine action.

STADELMANN in the discussion said that for the production of hemoglobinuria some blood-poison is necessary, as exemplified by pyemia. If the theory of Michaelis were correct, this condition would be oftener encountered.

HAHN, at the Aerztlicher Verein in Hamburg, October 30, 1900, reported a child three years old with a primary syphilitic sore on the upper eye-lid. The submandibular glands were affected and a macular secondary exanthem established the diagnosis. In the same family, a second child had the initial lesion on the tip of the nose and a third on the wing of the nose. An adult in the household with florid secondary lesions was the source of all these infections.

SOCIETY PROCEEDINGS.

NEW YORK ACADEMY OF MEDICINE—SECTION ON ORTHOPEDIC SURGERY.

Stated Meeting, Held October 19, 1900.

A. B. Judson, M.D., Chairman.

Diagnosis of Pott's Disease.—Dr. H. Gibney read this paper, which was illustrated by the exhibition of photographs and the presentation of patients.

Case I. Cervical Pott's Disease.—Girl eight years of age. Marked deformity from disease of long duration of several of the cervical vertebræ with scars of abscesses below the site of the disease. Treatment had been discontinued in the summer of 1900. The child had worn a head support combined at first with a plaster-of-Paris jacket, and afterward with Knight's spinal brace. Pain near the seat of the disease, which is often absent in the other regions, is a common symptom in this region, with a sensitive area at the side of the neck, severe pain with voluntary motion of the head and neck and apparent torticollis yielding easily to traction applied in such a manner as to hold the head in its normal position. Before treatment, relief was sought by a supporting hand held under the chin. Abscesses are not an uncommon incident of cervical disease, detected by an examination of the posterior wall of the pharynx or burrowing under the superficial muscles of the neck.

Case II. Cervical and Dorsal.—Boy five years of age, affected for two and a half years with disease extending from the middle cervical to the middle dorsal region. Two abscesses had opened spontaneously at the sides of the neck under the sternocleidomastoid muscle. He had worn a plaster-of-Paris jacket and a jury-mast for eighteen months. A grunting noise with each expiration is almost characteristic of caries of the dorsal region and an early diagnosis is greatly assisted by the occurrence of gastralgia, the appearance of a

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careful gait and a peculiar, apprehensive attitude, expressive of timidity and insecurity, and an instinctive desire to avoid disturbance of the diseased vertebræ. The first sign of a kyphos is seen in a slight angle breaking the long natural curve of the spinous processes observed in profile as the patient lies prone.

Case III. Tenth Dorsal. First Stage.—Girl eight years of age. Under observation since May 5, 1900, and regarded for a time as a case of lateral curvature with a hypersensitive, almost neuralgic, condition of the spine. Very recently a suspicious point had been detected at the tenth dorsal and treatment would now be by Knight's support.

Dr. T. H. Myers said that lateral curvature often attended incipient Pott's disease and obscured the nature of the more serious affection, as had occurred in the present instance. He thought that these doubtful cases should be considered as caries of the vertebræ until a positive diagnosis could be made.

Dr. H. S. Stokes said that in obscure cases of early Pott's disease the plaster-of-Paris jacket was valuable as a means of verifying the diagnosis. In cases in which there was at first no apparent deformity, if the jacket were applied and left on for a time, then removed, the kyphosis, if present, would be seen at once. This effect was seen too soon to be due to further progress of the disease, nor could it be said that the jacket had caused the kyphosis. In a doubtful case, showing no deformity, he would apply the jacket as a diagnostic measure.

Dr. A. B. Judson said that similarly the tumor of white swelling of the knee became more obvious soon after the beginning of mechanical treatment, probably from pressure and restraint applied to the soft parts.

Dr. Gibney resumed his presentation of patients as follows:

Case IV. Dorsolumbar.—Girl, two and one-half years old, affected with disease of the dorsolumbar region of nine months' duration. No abscesses. The spine had the marked rigidity which attended disease in this region and marked gastralgia had been a part of the history of the case. A plaster-of-Paris jacket had been applied at first, but lately a recession of the deformity had been observed to follow the strict application of a Bradford frame.

Case V. Eleventh Dorsal. Third Lumbar.—Girl thirteen years old, who had recently come from Russia with a very marked kyphos. But little had been learned of the history and treatment. Sinuses were discharging at points where abscesses had opened spontaneously. The gait and attitude were very characteristic of disease in this region. A Knight support had been applied and as the child's general condition was fair, the prognosis was good.

Dr. Myers said that the characteristic attitudes of Pott's disease, although early and important signs, were also seen in osteitis of a syphilitic or malignant origin. It was, therefore, important to consider the personal and family history, the age, the location of the disease and the mode of onset as well as the pain and tenderness. The fourth patient presented had been free from pain in the abdomen and legs. Pain in the terminations of the nerves was not so early or so prominent a symptom in the lumbar as in the dorsal region, while local tenderness was more apt to be recognized in the cervical than in the other spinal regions. In the cervical region the vertebral articulations might become infected by organisms gaining access from the pharynx after measles or scarlet fever with resulting muscular spasms and malpositions of the head simulating those of Pott's disease and it might be a long time before it could be decided that a postpharyngeal abscess had its origin in vertebral caries. A long time might also elapse before it could be known that a traumatic osteitis in the cervical or lumbar region had become tuberculosis. There were absolutely no pathognomonic symptoms.

Dr. J. P. Fiske said that he had not as yet seen a case of traumatic spine go on to tuberculous caries.

Dr. Judson said that Pott's disease presented some unexpected features, such as the occurrence of pain in the front of the trunk while the disease was in the back. Some patients also with serious and purulent destruction of bone maintained the appearance of robust health. This affection, justly compared with fracture of a central and most important part of the skeleton, was as a rule so free from local pain and disability that when these symptoms were persistent and exaggerated Pott's disease gave way to malignant disease of the vertebræ as a probable diagnosis.

Dr. Myers said that the diagnosis of the latter affection would be assisted by consulting the following clinical features: Rapid emaciation and loss of strength, every motion exquisitely painful, pain constant but motor paralysis less constant, marked muscular rigidity, kyphosis absent or late in its appearance, occurrence at any age.

Dr. Fiske said that as they all had deformity the presentation of these patients failed to throw light on the most important question, that of making an early diagnosis. Diagnosis before deformity was an extremely difficult thing, and proportionately important and desirable. Suspicious spinal symptoms might be produced by rheumatism, by neurotic reflexes, myositis following a blow or by some other and more obscure muscular lesion. He had seen cases in which circumcision had dissipated spinal symptoms which had been hard to interpret. Muscular spasm or spinal rigidity could not alone support a diagnosis of tuberculosis of the spine.

Dr. C. R. L. Putnam recalled the history of a case which he had observed in a foreign hospital. A man, fory-five years of age, totally paraplegic, was thought to have disease of the first and second lumbar vertebræ with a tuberculous abscess pressing on the spinal cord. The removal of two laminæ revealed the presence of an echinococcus cyst behind the theca. The result was unfavorable.

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Dr. Myers had seen a tumor of the lower cervical cord produce, not only symptoms of pressure on the cord, but also the local pain and muscular rigidity which usually attend vertebral disease.

Dr. F. A. Goodwin of Susquehanna, Pa., said that railway brakemen, from their custom of jumping off and on trains in motion, frequently received spinal injuries accompanied by rigidity, pain on pressure and other symptoms of true Pott's disease. Perfect rest for a long time, however, almost always cleared up the diagnosis. It had been his misfortune to see a number of patients in whom the diagnosis of Pott's disease had been inexcusably postponed by eminent authorities. He instanced the history of a little boy who had been treated for asthma and other affections without an examination for kyphosis which had existed to a marked degree for a long time during which grunting expiration, pain, inability to stoop and rigidity of the spine had been obvious features of the case. On the other hand, he had made a diagnosis of Pott's disease in a little girl who had a board-like rigidity of the spine. She could not stoop to pick up a coin from the floor without putting a hand on the knee for support. Her recovery without treatment was explicable by the supposition that there had been synovitis of the costovertebral and costotransverse articulations. He thought that a diagnosis before the appearance of deformity was exceptional and recognized the inherent difficulties of the situation.

Dr. L. W. Ely referred to the opinion which prevailed among general practitioners that Pott's disease in the dorsal and lumbar regions was attended by sensitiveness to pressure on the spinous processes. Although this supposition was not unreasonable, in view of the nature of the lesion, the fact was that this symptom was of very rare occurrence. Running the fingers down the spinous processes in a doubtful case was of almost no value in making a diagnosis.

Dr. G. R. Elliott said that in a rapid carious process we had the full quota of symptoms clearly defined while a slow morbid action gave but few and obscure indications. The X-ray had been a disappointment in this field. It had failed to reveal a deposit before the appearance of deformity. What was desired was an early diagnosis, a diagnosis before deformity which, of itself, made the diagnosis without the assistance of symptoms or any other signs. A most important early symptom was abdominal pain. How often are we told of the postponement of a spinal examination in favor of treatment for intestinal disturbance until an early diagnosis was impossible. A child should be examined with all the clothing removed. In no other way could the obscure signs be recognized. The enlarged abdomen was another important early sign. The contraction of a psoas muscle, exposing one to the risk of a faulty diagnosis of hip disease, might be the earliest sign of Pott's disease. He recalled the case of a child who was said to have cervical caries of two months' duration following scarlet fever with rheumatism. There was painful spasm of the muscles of the neck, the head resting on the shoulder and a hand supporting the chin. The symptoms all disappeared without fixation after treatment by simple suspension. On the other hand, a patient with supposed rheumatism of the spine, whose symptoms included pain in the back, stiffness and misunderstood reflex spasm, was bathed, rubbed and shaken up for three months and, after vigorous antirheumatic treatment had lasted for a year, the appearance of kyphosis determined the diagnosis.

Equilibrium disturbed by kyphosis of Pott's disease and restored by lordosis.

Dr. Gibney said that photographs clearly presented the attitudes, but failed to display the characteristic movements and deportment of the patient affected with Pott's disease. There was in his collection, however, one which graphically copied (see Fig. 1) the overerect attitude which was assumed by the patient's entire figure and threw light on the mechanism of the production of the lordosis which appeared as a compensating curve below the kyphos.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, Held December 6, 1900.

The President, William H. Thomson, M. D., in the Chair.

THE anniversary discourse was delivered by Dr. Robert Abbé, the subject being "The Problem of Appendicitis from the Medical and Surgical Side."

Changes in Surgical Interest.—The subject of most interest to surgeons at the present moment is appendicitis. As an ordinary surgeon in a reasonably busy practice may have 100 operations a year for appendicitis, this interest is evidently jus-

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tified by the conditions. Other subjects of surgical interest come and go, but this continues because of its pathological significance. Twenty-five years ago the questions of interest to the surgeon were very different from those which occupy him now. One of the most important subjects at that time was operation for strangulated hernia. This has lost a great deal of its importance because operations for the radical cure of hernia have greatly lessened the number of strangulations which take place. Another important subject at that time for the surgeon was pyemic conditions of joints. These came as the result of infection, and in this day when asepsis is the rule such cases are very rare. Kidney abscess was another subject of interest a quarter of a century ago that has lost most of its importance at the present time, because vesical infections are now treated more carefully and more rationally and ascending infections of the kidney do not take place. The surgery even of tuberculous bone affections has diminished in importance, because of the better sanitary surroundings of the population most liable to these conditions. There is no doubt that no profession is doing so much to end its own usefulness as the medical one.

Phases of Appendicitis.—Appendicitis constantly presents new problems. It is not a new disease. Some twenty-five years ago, when the word pneumonia first came into vogue to represent a disease distinctive from a number of pulmonary conditions that had formerly been grouped together, a similar state of affairs occurred with regard to this disease. There seemed to be many more deaths from pneumonia than formerly and apparently the disease was epidemic. Just as many deaths occurred from appendicitis before the invention of its name as since. Two diseases particularly received the credit for the fatal affections which are now known to have been due to appendicitis; these were inflamation of the bowels and peritonitis. Inflammation of the bowels formerly occupied a prominent place in hospital mortality statistics. Now it has disappeared.

Specimens of Appendices.—Dr. Abbé then said that he had not intended to review the statistics of appendicitis, nor to suggest any modification of present operative methods, nor had he any pet theory to air in the matter, nor did he even wish to dogmatize on the subject. The main object of his paper was the discussion of a set of specimens of diseased appendices which had been removed, carefully preserved in alcohol, and then studied. In order to preserve these specimens as far as possible in the state in which they were when removed, they were first injected with alcohol and then placed in a vessel containing alcohol. After hardening they were split in order to show the character of the interior of the appendix and especially to exhibit the kind and number of strictures that existed in the different cases. Nearly always behind the strictures were found pockets of infected material, sometimes only mucopurulent in character, but sometimes composed of pure pus. Many of these cases were associated with symptoms of chronic dyspepsia, which show the reflex affect on the gastro-intestinal tract of the presence of the pus as well as the effect of infective material in the absorbents of the digestive system.

Concretions.—In many cases concretions were found behind the strictures. Whenever concretions were found they always occurred on the distal side of the narrowing of the lumen of the appendix. These concretions very rarely contain food particles, nor are they formed around some foreign body as a nucleus, although this has often been said to be their usual mode of origin. The concretions are composed of desquamated epithelium from the mucous membrane of the inflamed appendix and of bacteria. Their formation shows that the pathological condition in the appendix has existed for a long time. It is an entirely false idea to think that these concretions are formed in the cecum and are dropped from there into the appendix. It is only when the stricture of the appendix is so tight that the desquamated epithelium finds no mode of egress that the concretions form.

Foreign Bodies.—Foreign bodies are found very rarely in the appendix. Some of the specimens presented show very clearly the appearances that led to the theory that the seeds of certain fruits sometimes find their way into the appendix and became the source of appendicitis. The concretions often imitate such seeds in their form and so are mistaken for them on casual observation. Only rarely is a kinking of the appendix the cause of appendicitis.

Etiology of Appendiceal Strictures.—Strictures of the appendix are due to two causes, ulcers and severe catarrhal inflammation. Experience with strictures in other parts of the digestive canal, especially the esophagus and the rectum, makes it clear that such strictures take many years to develop sufficient contractility to narrow the lumen. There is no doubt that the beginning of a stricture in the appendix may go back twenty-five years.

Undoubtedly a severe intestinal disease in children, such as infantile colitis, is a prominent and frequent cause of ulcerous conditions which invade the appendix and leave a tendency to the formation of connective tissue which later becomes a stricture. Influenza when it attacks the intestinal canal is probably also a not infrequent cause. The first recognized attack of appendicitis is really only a terminal stage of an affection which has existed for many years.

Development of Appendicitis.—When a stricture exists in the appendix any disturbance of the circulation of the intestine may easily lead to a swelling of the mucous membrane with occlusion of the canal. If the bacteria behind the stricture are of virulent character, this occlusion may soon become permanent by inflammatory adhesions and, then, as there is no free exit for the infective material, a virulent abscess results. Sometimes the rapid growth of bacteria within the shut-up appendix and the consequent manufacture of purulent material increases the pressure within the

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appendiceal pouch and forces open once more the occluded lumen of the appendix.

These are the cases which improve under medical treatment and seem to get better. Occasionally Nature provides an exit for the pus by making an accessory opening through some part of the intestinal canal. This constitutes Nature's method of curing the disease. The cure is rare, however, and is usually imperfect. The ordinary cures under medical treatment are in no sense radical. Recurrences of the appendicitis can be looked for at any time and the stricture of the appendix, of course, continues to exist.

Multiple Appendiceal Strictures.—As many as seven or eight strictures of the appendix, all of them fairly tight, have been found in one appendix. These usually represent successive attacks of appendicitis, occurring at rather long intervals. The appendiceal inflammation leads to the formation of connective tissue and as this is contractile in character, strictures result. Very often when the history of the case is carefully traced and the condition of the appendix, the number of its strictures and their character, carefully studied, the two sources of information will be found to complete and explain one another. The appendiceal history is written in the tissues of the appendix itself.

Special Cases.—One of the appendices removed by Dr. Abbé and presented among the specimens was markedly gangrenous. It came from a case in which the patient had had a preceding mild, but typical, attack of appendicitis twenty-five years before the one in which the acute symptoms required the removal of the appendix. The stricture which had formed in this case had behind it a concretion and it was this, doubtless, that helped to the acute exacerbation which ended in gangrene. The concretion in an appendix may act as a ball-valve, sometimes preventing the exit of material within the appendix and sometimes permitting it. This gives rise to slight symptoms of appendicitis. The perforaton of the appendix not infrequently occurs where the concretion is pressing upon the walls of the appendix. Pressure leads to thinning of the walls and finally to complete perforation.

Appendicitis and Gout.—It has been said that appendicitis occurs especially in gouty subjects or, at least, that in certain cases the appendicitis seems to be of gouty origin. This explanation of the etiology of the disease is apparently due to the fact that in certain cases joint symptoms have been noted in connection with recurring appendicitis. It is probable in most of these cases, however, that the reason for the joint symptoms is really a mild form of pyemia induced by the constant presence of the septic focus in the diseased appendix. Mechanical factors are now held to be the principal etiological elements.

Latent Appendicitis.—Certain cases of appendicitis run a most insidious course. That is, the disease exists for a long time, yet gives no symptoms that call attention to its presence. It seems better to call such cases latent, rather than chronic appendicitis. When stricture exists it is not hard to explain such cases. A bicycle ride may cause intestinal congestion; or the intestinal disturbance incident to the irritaton of some unsuitable food, green apples, or the like, may produce the same effect. Menstrual disturbances are also factors in the production of a congestion which causes appendicitis. Each attack that occurs makes the stricture tighter. Relief afforded by any means other than a radical surgical operation is only a lull in the general pathological process which is usually progressive.

Anomalous Cases.—At times there is found within the lumen of an appendix after operation an accumulation of sterile yellow debris. At times, too, the virulence of the infective material within the appendix proves to be not so fatal as might be anticipated from its appearance. Every surgeon has had cases in which contrary to expectation the patient has recovered. At times apparently moribund patients recover even after operation has been refused because there seems no hope. This recovery is usually due to the fact that Nature provides an issue for the pus by some method of spontaneous evacuation. In general, however, a case of appendicitis can never be operated upon more safely than when it is first recognized.

Recuperative Power.—The study of the changes that take place in an appendix when natural forces are working for its removal, while Nature is trying at the same time to protect the individual from harm, are most interesting. In the formation of adhesions and of newly-formed connective tissue generally, cells fall into line for reparative purposes with a unanimity and a helpful cooperation that seem little short of intentional. More important processes within the body share this same tendency to accommodate themselves to changed circumstances in pathological conditions. The reversal of peristalsis, which takes place whenever occlusion of the intestines occurs, is a striking example of this conservative accommodation of means to other ends than those for which they were originally intended. For forty years or more, perhaps, persistalsis has always acted downward and now, in the hope of preventing fatal accumulation of material, the process is reversed. The mechanism for reversal is as intricate and requires as much intention as does, for instance, the reversal of a steam engine.

Cell Instincts.—There is no doubt that to man is arrogated too much superiority to the individual cell. It is the custom to say that animals have instincts and to explain many of the things which seemingly require reasoning powers to the presence of this faculty. It is a method of explaining animal intelligence without a resort to mental qualities. Cells undoubtedly possess instincts that are not unlike those of the animal and that are at least utterly inexplicable so far as we have been able to study them. The case of phagocytes, for instance, who fall on the battlefield of the inflammatory disturbance, unselfish martyrs to the cause of protecting other cells and through them the higher organism to which they all belong, are the best example of this. Further study will undoubt-

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edly reveal many things that are now mysteries in these cell processes and give higher ideas of the wonderful work they do.

Diagnosis of Appendicitis.—Despite all study of the disease the diagnosis of appendicitis is not yet an absolutely soluble problem. There are cases in which renal calculus, for instance, may simulate every symptom of an appendicitis and in which the only hope for differential diagnosis is the finding of a few blood-cells in the urine after careful microscopic examination. Even so ordinary a disease as typhoid fever may for some days simulate appendicitis so closely as to make diagnosis practically impossible. In this case the presence of leucocytosis is important. In typhoid fever, if there is no ulcerative process, as there usually is not at the beginning, there will be no leucocytosis. The number of white blood-cells will soon be recognized as an important diagnostic point in other regards. If marked leucocytosis is present in appendicitis a favorable prognosis exists, however serious the symptoms may be.

Extra-Appendiceal Symptoms.—The presence of a collection of purulent material in and around the appendix often gives rise to symptoms in parts of the body far distant from the appendix. Arthritic symptoms due to the presence of a subseptic state, a mild pyemia, have already been spoken of and are sometimes a very interesting feature of certain cases. The mimicry of other intestinal diseases is quite common. Ordinary colic is usually appendicitis. Colicky symptoms in other parts of the intestinal canal may owe their origin to the reflex irritation of the pathological condition of the appendix, or to the presence of irritating material in the vascular system of the intestine. A very curious set of symptoms are those which in appendix cases seem to point to the existence of an ordinary indigestion, capricious appetite and recurrent pains after eating being prominent symptoms.

Significance of Appendicitis.—It is now much better realized than formerly. Life insurance companies, for instance, now refuse to take risks on the lives of patients for one year after a first attack of appendicitis, and will not insure until the appendix is removed if there has been more than one attack. Truth always comes letter by letter in medicine, but the subject of appendicitis has been lifted out of the opprobrium of the past. The improvement has come not alone in knowledge of the pathology and etiology of the disease, but also in its therapeutics and in the indications for treatment furnished by special symptoms. The old reproach, "And have some doctor shake his learned head and give the ill he cannot cure a name," no longer comes home to us, in regard to appendicitis, as it did in the past.

Medical Board of City Hospital.—The following officers were elected at the annual meeting: President, Dr. Edward S. Peck; Vice-President, Dr. D. Hunter McAlpin, Jr.; Secretary, Dr. Charles L. Gibson; Chairman of the Committee of Inspection, Dr. Charles C. Ransom.

BOOK REVIEWS.

DUANE'S MEDICAL DICTIONARY. A Dictionary of Medicine and the Allied Sciences. By ALEXANDER DUANE, M.D., Assistant Surgeon to the New York Ophthalmic and Aural Institute. Lea Brothers & Co., Philadelphia and New York.

THE man who has occasion to examine medical students, or, more especially, advanced practitioners who apply for State licenses, is impressed always with the almost universal lack of accuracy both of statement and of use of words. Every effort that tends to direct the attention of medical men to accuracy of definition and makes it easy for them to acquire it is to be cordially welcomed. Duane's dictionary fulfils this to a marked degree. In this last edition the work has been enlarged to include pharmacy, dentistry, and veterinary science. Under the principal diseases a concise sketch is given of causation, symptoms and treatment; under the more important organs an outline of their structure and functions, and under each drug an account of its action, uses, preparation and dosage. A practical test, by daily use during the past three months, demonstrates that the work is reliable, complete, convenient and in every way satisfactory.

CANCER OF THE UTERUS, ITS PATHOLOGY, SYMPTOMATOLOGY, DIAGNOSIS AND TREATMENT. By THOMAS STEPHEN CULLEN, M.D., Associate Professor of Gynecology in the Johns Hopkins University. Illustrated by Max Brödel and Hermann Becker. New York: D. Appleton & Co., 1900.

THE steady and rapid increase of cancer is arousing renewed interest in the study of its nature, its methods of extension, and its etiology. The contribution that Dr. Cullen has made to the science and literature of this subject forms the most complete and satisfactory work in this field that has ever been presented to the medical profession. Dr. Cullen has no new theory to expound regarding the primary cause of the disease, but he presents in the book before us all of value that is known upon the subject. In addition to these is given a most complete and careful record of his clinical and pathological study of all the cases of cancer of the uterus or any disease that might possibly be confused with cancer that have come under observation at the Johns Hopkins Hospital during the last seven years. The book is of great value to the pathologist, to the family physician and to the surgeon. The author bases his work upon the hypothesis, dictum or fact, that the microscope is the final arbiter in making a differential diagnosis, and specific directions are given for the preparation and the examination of scrapings from the endometrium, and the securing and treating of specimens of tissue from all infected areas. The chapters on the early recognition of cancer are so distinct and clear that a wayfaring man, though a general practitioner,

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should not err in giving, or directing to, prompt and efficient relief. The descriptions of the latest methods of surgical treatment, the discussion of methods of transmission (implantation) and the judicial consideration of progrosis are of value to the surgeon. The names of Max Brödel and Hermann Becker are sufficient guarantee of the excellence of the illustrations.

PRACTICAL MANUAL OF DISEASES OF WOMEN AND UTERINE THERAPEUTICS FOR STUDENTS AND PRACTITIONERS. By H. MACNAUGHTON-JONES, M.D., M.Ch., Master of Obstetrics, Royal University of Ireland; President of the British Gynecological Society, etc. Eighth Edition. New York: William Wood & Company.

THIS well-known manual appears in its eighth edition pregnant with new matter. The author makes extensive notes on the management of the various operations, omitting none of the details the knowledge of which is ordinarily presupposed, but which the young practitioner or student has not yet learned by practical experience. At the same time the text is elucidated by numerous excellent original illustrations, which are a prominent feature of the work. Tables of etiology and symptoms adapt the book to the student's demands, but it is to be regretted that in treatment many methods are outlined without any indication of the author's preferences. Chapters are devoted to asepsis and antisepsis, surgical instruments, sutures, arrangement of operating room, etc., which belong rather to works on general surgery. In the medicinal treatment we are surprised to see mentioned and recommended not a few proprietary articles of presumably unknown composition. Chapters on the rectum and urinary organs add to the value of the book and make it as complete as one could find in such compact form.

THE LAW IN ITS RELATION TO PHYSICIANS. By ARTHUR N. TAYLOR, LL.B., of the New York Bar. New York: D. Appleton & Company.

THE object of this book is to place within the reach of the physician a systematic treatment of those questions of law which affect his ordinary professional work, and to explain the general principles upon which his rights are based. It is not a treatise on medical jurisprudence, but rather a series of talks on the responsibilities of physicians, their control over patient, their right to compensation, and their duties under the law as medical men. Some of the questions discussed are the liability of master for attendance upon servant, of one person who calls a physician to attend another person, of physician in cases receiving treatment free, and in operations of necessity. Cases and court discussions are introduced in brief to illustrate in a practical way the exact meaning of certain laws. Usually the general nature of the query precludes consideration as to individual State laws, but where these laws differ materially they are compared and commented upon. The style smacks of the legal, but it is agreeable, clear, and not technical. An extensive index adds to its value.

A TREATISE OF DISEASES OF THE NOSE AND THROAT. By ERNEST L. SHURLY, M.D., Vice-President and Professor of Laryngology and Clinical Medicine, Detroit College of Medicine, etc., etc. D. Appleton & Company, New York.

AIMING at thoroughness and comprehensiveness in his treatment of each subject the author has treated diphtheria and tuberculosis much as they would need to be treated in a work on general ~~medicine~~, simply because they had a claim to consideration as nose and throat affections. This thoroughness pervades the book. It skillfully summarizes the history. It arrays the *pros* and *cons* in etilogy and pathology, giving all views a fair chance to be heard and prefers to leave decisions to the readers, though occasionally it ventures a "not proven," as in the case of identity of causative agent in tuberculosis and lupus. It is with regret we notice that authors are credited with views without reference to the literature whence the views are obtained. We fully appreciate what a huge bibliography would have been needed for this book, since the author seems to have consulted everything written on the subjects treated. Yet, a work of this kind in our times is signally deficient that omits such a bibliography, since readers often wish to consult the originals, read them *in extenso* and along with their content. Otherwise, we must speak commendably of this book, written in good language, racily, thoughtfully and with full appreciation of the importance and setting of the various subjects. It has the true spirit of scientific investigation in all questions of research. It presents many methods and hints at the best. The author's grasp of general medicine is evident from the point of view from which he considers his specialties. This vouches for the helpfulness of the book to the general practitioner. He might profitably have said more about immunization when he said so much that was valuable about diphtheria; and he might profitably have said more about the selective influence of *la grippe* for the nervous elements when he said so well so much else of value about it. The book demonstrates its value to us by the forceful and virile thoughts it gives us, instead of mere recitations of facts and methods, necessary as these are and faithfully as they are given. It is alive with the vigor and restlessness of modern medical progress. The make-up is fairly good. The photo-engravings illustrate and teach how intubation is done.

SPEECH HESITATION. By E. J. ELLERY THORPE. E. S. Werner Publishing & Supply Company, New York.

MRS. THORPE'S book treats the subject of speech hesitation as a fault that is in practically all cases amenable to correction. So many of these cases seem hopeless and their infirmity inflicts such a degree of suffering that attention can not be called too often to possibilities of cure under proper methods of respiratory regulation. Some of the cases that have been im-

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proved by the method suggested here are sufficiently striking to encourage further trials to cure no matter how hopeless the case may seem. There is, of course, a large personal element in any successful method of treating these cases, but valuable points can be gathered from others' experience by those who are interested in the subject and hence the usefulness of this manual.

PHYSICAL DIAGNOSIS OF DISEASES OF THE CHEST. By RICHARD C. CABOT, M.D., Assistant in Clinical Medicine Harvard Medical School. William Wood & Co., New York.

DR. CABOT'S purpose in writing this book is expressed very tersely in the preface as follows: "I have written it because I have not been able to find any small work upon the subject which does not contain glaring errors. The correct books are too large. The small books are out of date and repeat such well worn myths as that the aortic second sound is normally louder than the pulmonic sound; that aortic regurgitant murmurs are usually best heard in the second right interspace, that the hypertrophied left auricle can produce dulness and pulsation near the left sternal border, that systolic retraction at the cardiac apex means adherent pericardium, that episgastric pulsation denotes hypertrophy of the right ventricle, etc."

It is clear from this that Dr. Cabot intends his book to be up to date, and it is. For a manual the illustrations are well chosen, though we can hardly say that they are fittingly reproduced. In general the book is very clearly and succinctly written. There is a taking suggestiveness about the style that fits it for the student. Without any appearance of piling up erudition a large amount of valuable practical medical knowledge is conveyed.

GUY'S HOSPITAL REPORTS. Vol. LIV. being Vol. XXXIX. of the Third Series. J. A. Churchill, Great Marlborough Street, London, 1900.

ONE can always be sure of finding good things in the Annual Report of Guy's. This time Dr. Frederick W. Taylor has a very interesting article on spleno-megalic cirrhosis of the liver. As this involves a discussion of the pigmentation of the skin in hepatic disease and also the significance of the stunting of growth which often causes club fingers, its interest can be understood.

Dr. W. Hale White devotes fifty pages to a discussion of diseases of the pancreas. This sums up very well our present knowledge of these obscure conditions and shows how much has been accomplished in very recent years to throw light upon this neglected organ and its affections.

Dr. G. E. Halstead has an article on "Some points in the treatment of acute infantile diarrhea with some hints for the young practitioner," that is very helpfully suggestive. This from the end of the article is good: "At the close of a series of lectures on the use of acids and alkalies an intelligent student went down to the lecturers table and quietly asked, 'But, Dr. M., when *would* you give acids and when *would* you give alkalies in stomach trouble?' Dr. M.'s reply was: 'Mr. W. if you have really followed my lecture as closely as you appear to have done you will have perceived that I am quite unable to tell you.'"

Dr. Halstead's summary of the treatment of infantile diarrhea is: "Diarrhea is due to something in the diet. Empty the bowels and keep them cleansed, preferably by castor oil. Energetically treat the collapse and do not trouble about the number of motions. Do not stop up the bowels by astringents and opiates. Give hardly any food for a few days, begin with white of egg solution in teaspoonful doses every half hour. If the baby is too hot, cool it. If it is too cold, warm it. If it is thirsty and not sick, give it water. Keep it in the fresh air all day long."

THE PREVENTION OF VALVULAR DISEASE OF THE HEART. By RICHARD CATON, M.D., Emeritus Professor of Physiology, University College, Liverpool. C. J. Clay & Sons, London.

THE author says in the preface that valvular disease of the heart has always been and still remains one of the opprobria of medicine. His object here has been "to promote the detection of the malady in an early stage, to study the commencing pathological changes, to investigate the manner in which in a few cases a natural arrest of the disease is brought about, and to seek by artificial means to render this arrest in the early stage usual rather than exceptional." On these very interesting themes he has made an extremely suggestive book.

The methods of treatment employed by the author are first absolute rest when the heart lesion is recent. This he considers the most essential therapeutic measure. Second, treatment by stimulation of trophic centers. This is done by counter irritation over the precordia. The third measure is the use of absorbent drugs. Of these sodium iodide is given the preference. By these means the author has accomplished certain definite results in eighty-six recent cases. His results include a number of cases in which heart murmurs with some functional symptoms of organic heart disease disappeared during the course of the treatment. The book bears the stamp of serious practical clinical work and deserves the careful study of those who are interested in the cure of heart diseases.

THE ART OF BREATHING AS THE BASIS OF TONE PRODUCTION. By LEO KOFLER. E. S. Werner Publishing & Supply Co., New York, 1900.

THIS little book of 250 odd pages is of interest to the physician for two reasons. First, because it treats the subject of faulty articulation from the standpoint that it is curable by the proper management of the breathing. Lisping and stuttering while dependent very often on congenital defects can be overcome by proper training.

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Hints as to how this training should be instituted are here given in a very practical way. The second medical interest in the book comes from the fact that so many people can, or think they can, sing. Many singers adopt an entirely faulty method of tone production and this is the basis of many a form of chronic laryngitis. The question of the proper method of tone production as it is treated here in practical fashion by Mr. Kofler, who is the organist and choirmaster of St. Paul's Chapel in New York City, can scarcely fail to be helpful to the general practitioner who has such patients to treat.

A TEXT-BOOK OF THE PRACTICE OF MEDICINE. By JAMES M. ANDERS, M.D., Ph.D., LL.D., Professor of the Practice of Medicine and of Clinical Medicine in the Medico-Chirurgical College, Philadelphia. Fourth Edition. W. B. Saunders & Company, Philadelphia and London.

CONCISENESS, clearness and systematic arrangement combined with accuracy, make a work on medicine a favorite with both the busy practitioner and the student. And it is perhaps these qualities that have required a new edition of this book within a year. The author has culled much of his material from other writers, has boiled it down and sorted it out, and to it has added ideas and criticisms of his own. The section on Diseases of the Digestive System has been extended and brought into line with what recently introduced methods of diagnosis have taught us. Sprue, ileo-colitis in children, and acute cholecystitis have been entirely rewritten, and the animal parasitic diseases, intoxications and other chapters have been revised. Historical matter is omitted and treatment is outlined in a brief but efficient manner. Quantities are given in both the English and the metric system, the latter suffering from a too literal translation, which makes the figures sometimes impracticable for prescription writing. Compactness enables the author to get a great amount of valuable matter into a single volume.

CANCER OF THE STOMACH, A CLINICAL STUDY. By WILLIAM OSLER, M.D., and THOMAS MCCRAE, M.B. (Tor.), of the Johns Hopkins Hospital. P. Blakiston's Son & Co., Philadelphia.

THIS is the fourth of that delightful series of special works begun by William Osler, the preceding ones of which are on angina pectoris, abdominal tumors, and chorea. The authors have made a detailed study of 150 cases at the Johns Hopkins Hospital diagnosed as cancer of the stomach. In the etiology an interesting relation is shown with tuberculosis and the use of alcohol, while previous stomach trouble is found to render an individual not more prone to cancer. The occurrence of the disease in the young, latent cancer, and the blood examinations form chapters which have already been published in brief in the journals, but the greater portion of the book is devoted to a study of the tumor and its symptoms. Vomiting, pain, loss of weight and strength, the condition of the various organs, the examination of stomach contents, and the secondary symptoms such as metastases, perforation, jaundice, ascites, and edema are all considered in detail. There is a chapter on pathology, and one on treatment, the latter of which is particularly concise and satisfactory. The book should be in the library of every physician and surgeon. The illustrations add to the value of the work.

HERNIA. ITS ETIOLOGY, SYMPTOMS AND TREATMENT. By W. MCADAM ECCLES, M.S. (Lond.), F.R.C.S. (Eng.). Wm. Wood & Co., New York.

INGUINAL and femoral herniæ are chiefly considered in this volume, the other forms, *e.g.*, umbilical, ventral, obturator, sciatic, etc., being dismissed with a very brief description.

The etiology of hernia is given at some length, some of its causes being ascribed to heredity, age, sex, and form, length and prolapse of mesentery. The clinical conditions of hernia are divided into reducible, irreducible, inflamed, obstructed and strangulated. The symptoms of all these conditions are carefully noted and in the case of all reducible herniæ, the treatment by truss is given in every detail. A form of truss is even advised in certain cases of irreducible hernia. Strangulated hernia receives considerable attention, particular emphasis being laid upon the symptoms and diagnosis. Prolonged taxis is discountenanced and early operation is advised; a radical operation should be done if the strangulated area can be replaced in the abdomen and the condition of the patient will allow of it. The radical operation advised in cases of inguinal hernia leaves the cord in the inguinal canal. The aponeurotic fibers of the external oblique are divided up to the internal ring, the sac tied off flush with the peritoneum and the internal oblique and transversalis united to the inner half of Poupart's ligament. Buried sutures of silk are used.

The operations of Bassini and Halstead, so popular in this country, are accorded only a few lines for their description.

Femoral hernia is well described and its palliative and operative treatment indicated. In fact the whole volume deals principally with the palliative treatment by truss.

BOOKS RECEIVED.

MUTTER LECTURES. 1900. By Dr. John B. Roberts. 12mo, 53 pages. Illustrated. Philadelphia.

THOMAS SYDENHAM. By Dr. Joseph Frank Payne. Masters of Medicine Series. 8vo, 264 pages. Illustrated. Longmans, Green & Co., New York.

APPENDICITIS AND ITS SURGICAL TREATMENT. By Dr. Herman Mynter. Third Revised Edition. 8vo, 231 pages. Illustrated. J. B. Lippincott Company, Philadelphia and London.

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ORIGINAL ARTICLES

CONCLUSIONS FORMED AFTER SIX YEARS' EXPERIENCE WITH THE ANTITOXIN TREATMENT OF DIPHTHERIA.

BY HENRY F. KOESTER, M.D.,

OF NEW YORK.

ABOUT six years ago, when the reports of Behring's observations on the antitoxin treatment of diphtheria began to reach this country, the medical profession probably was called upon to treat no pathological condition which so baffled the skill of its members as the affection now under consideration.

Mild cases in which the disease manifested itself by perhaps a slight tonsillar exudation, attended with slight, if any, constitutional symptoms, usually responded to the ordinary treatment then in vogue, consisting of the application of caustic or antiseptic remedies to the affected surfaces, with perhaps the addition of drugs or stimulants, directed toward sustaining the life of the patient until the disease was ended. Indeed, it had even then come to be considered that the administration of stimulants, preferably alcoholic, was productive of the best results obtainable. Some even went so far as to recommend and put into effect the use of stimulants to the point of intoxication. In malignant cases, as they were then called, the same plan of treatment was adopted, but the results were anything but gratifying; the mild cases would get well any way, while those of the severer type owed their recovery, which occasionally took place, to the intervention of a Divine Providence.

The situation was such that Behring's observations found the majority of medical men in a condition eager to grasp anything which offered the prospect of better results. The hope engendered by his writings gave way to a feeling of positive assurance, as patient after patient recovered under this plan of treatment, that the profession was at last in possession of a remedy for diphtheria which offered some hope of intelligent medicine. Nor have this hope and assurance grown less as time has elapsed; but, as the experiences of observers have continued to add testimony to its positive efficiency, the time has at last arrived when we feel that, given a case of diphtheria sufficiently early in its course, we have in antitoxin a remedy at our command which is positive in its effects. Although this is now the accepted belief, there are a few who still remain skeptical. The writer feels that if by a narration of his individual experience, extending over a series of 170 cases in private practice, to say nothing of the privilege he enjoyed in common with other attachés of the Health Department of the City of New York, he can do anything to remove the skepticism of a single observer with regard to the value of antitoxin as a remedy for diphtheria, his justification for such a course is most ample.

Diphtheria may be truly said to be a disease of childhood, for of the 170 cases forming the subject of this article but five, or about three per cent., occurred in adults. The treatment formerly employed was especially distressing when applied to children. It necessitated the continued exhibition of brute force, and even when we felt that we had mastered the disease, as far as its outward manifestations were concerned, we did not feel for some time that all danger was passed. It was not an uncommon experience to carry a child through a long and exhausting sickness, which was often a struggle from beginning to end, only to have it finally succumb to a sudden attack of cardiac paralysis. Now, when called to a child afflicted with diphtheria during the first forty-eight hours of the disease, the writer feels justified in promising the family and friends that, with the antitoxin treatment properly applied, recovery will take place inside of forty-eight hours more.

This leads us to the consideration of what constitutes the proper application of the antitoxin treatment. We have seen a patient with diphtheria treated with antitoxin by one who was not familiar with its use, into whom the remedy had been injected with an ordinary hypodermic syringe, necessitating numerous injections of a small quantity of the serum, thus subjecting the patient to unnecessary torture and producing anything but satisfactory results.

Antitoxin, to obtain its best effects, must be used fearlessly and in quantity sufficient to be effective, which is never less than 2,000 units, and that in very mild cases. In severe cases at least 3,000 units must be used, and this dose repeated in from twelve to twenty-four hours. Antitoxin in itself, contrary to the expressed belief of some observers, never does any harm.

It is the opinion of the writer that antitoxin and an appropriate syringe should be a part of every practising physician's armamentarium—as much so as a pocket-case and a hypodermic syringe—and that he should never be without them in his pocket or instrument-case, when called to see a patient about whose condition he knows nothing. When called to see a child sick with an ailment which may or may not be diphtheria, the first step in examination is to look at the throat. If any suspicion of exudation is present an injection of antitoxin should be the next move, after which a culture be taken. If a subsequent examination proves the case to be one of diphtheria, the patient has been put in the best possible condition to combat the disease; if the bacteriological test proves that you were mistaken, no harm has been done.

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One of the most important facts to bear in mind in the use of antitoxin is that the dose is to be regulated by the severity of the disease and the length of time the patient has been ill, and not by the age of the patient. There may be some exceptions to this; but it is a safe rule to follow, whether we meet with diphtheria in a child of one year or five years, that the only features to be regarded are the severity and length of the disease. Even when the age of the patient is more than five years, it will not be necessary to increase the dose of the remedy very much. Two thousand units is the smallest dose that should ever be given, and then only in very mild cases of tonsillar diphtheria, excepting in cases of children under one month old. When the disease has invaded the uvula and pharynx, as evidenced by the exudation on these parts, 3,000 to 4,000 units should be the initial injection. Should the nares also be involved, my invariable rule is to give from 4,000 to 5,000 units at my first visit. It is extremely difficult to ascertain just how much membrane there may be in the posterior nares, and, if its presence can be determined in this situation at all, it is better to give the patient the benefit of any doubt we may have as to its extent and give a large injection immediately.

In cases of diphtheritic croup, large doses, say from 4,500 to 6,000 units, should be given, and we should also be ready to intubate at a moment's notice. In intubated cases the tube can be removed in four to five days. Should stenosis recur, the latter is not due to the diphtheritic membrane, but either to granulations or spasm of the larynx. When, in addition to laryngeal diphtheria, there is an exudate in the pharynx and tonsils, one should be governed by the condition of this membrane as to the necessity of repeating the injection. If the pharyngeal exudate disappears after the first injection, it is safe to infer that the laryngeal exudate will do likewise, and a second injection will not be necessary. In all cases, whether pharyngeal or laryngeal, the injection should be repeated in from twelve to twenty-four hours, depending on the condition of the patient. In cases of mixed infection, or so-called septic cases, the initial dose is from 5,000 to 6,000 units, repeated in twenty-four hours. It is not an uncommon experience to find, in a family in which one child has diphtheria, other children who apparently are not ill, but have colds in the head. One child may have a running nose, another a mucopurulent discharge from the eyes; and a bacteriological examination will reveal the presence of the diphtheria bacilli. In these children a single injection of 2,000 units of antitoxin will produce marvelous results. As a rule, this single injection will stop the discharge without further trouble. In many cases of croupy cough (membranous croup), even cases that have been called pertussis, it will often be found that the bacilli are present, and an injection of antitoxin will stop the trouble.

It is not necessary that the injection should be made at any particular point, but there are reasons why certain parts are preferable to others. It is not an uncommon practice to choose the muscles of the back, but it is my custom to make the gluteal region the site of injection. If the assistant places the child over one knee, face down, and with his free leg over the patient's, it is very easy to hold the child firmly, and the gluteal muscles offer a convenient place for operation; then, too, no matter how much the patient may struggle the operator need have no fear of puncturing or wounding other important parts. This cannot be said of injections over the back, chest or abdomen, as it would not be difficult if the patient struggled violently, as they sometimes do, to puncture the pleura or peritoneum. Moreover, a large injection over the chest or abdomen will cause a swelling which often disappears very slowly, whereas in the gluteal region this is not the case, especially if the needle is carried deep into the muscle.

One of the most valuable features of the antitoxin treatment of diphtheria is its use in immunization. In large families in tenement-houses, when isolation of the afflicted person is impossible, unless removed to a hospital, an injection of the remedy into those not infected will prevent the spread of the disease. In former days, when diphtheria was treated empirically, it was not an unusual occurrence to have several members of a family die of diphtheria before its course could be checked; but now such a condition is almost, if not entirely, unheard of. The reports of physicians in institutions in which children are kept, and from medical men generally, seem to fix the immunizing dose at from 150 to 300 units; but it has been the writer's uniform custom to give from 300 to 500 units in tenement- and flat-house districts where children cannot be closely watched and where isolation cannot be practised. My experience with the immunizing power of antitoxin has been quite large, embracing a series of nearly 1,800 cases in tenement-house practice. In only four of these cases was a membrane produced within from twelve to thirty days after the injection. In only one of these was the membrane which appeared thirty days afterward due to true diphtheria; one was due to follicular tonsillitis and the remaining two to streptococcus infection. Never have I seen any complications or sequelæ follow the use of antitoxin as an immunizing agent, excepting the occurrence of an urticaria-like rash, and even this does not occur in more than ten per cent. of the cases and lasts only a day or two.

Passing now from the consideration of the simple antitoxin treatment and giving attention to the question of whether it is necessary to use any other treatment in connection with it, it may be stated that this must be determined by circumstances. Antitoxin is a specific in diphtheria and when the disease is mild or in its earliest stage, the membrane thin and not covering a large surface, it is not necessary to do more than give one injection, depending on the antitoxin to cure the disease. When, however, the disease has made more progress and a putrefaction change has oc-

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curred, accompanied by foul-smelling discharges, it will then be well to employ some measure to destroy the odor and to keep the parts sweet and clean. For this purpose I have employed a neutral preparation of peroxide of hydrogen, mixed with double or three times its volume of water. I have also used a saturated solution of boracic acid, or a normal salt-solution; but it is my belief that the best results are obtained with peroxide. These solutions should not be sprayed in the throat, but should be thrown in with a long-nozzled, hard-rubber syringe holding an ounce, after depressing the tongue with some force against the pharynx, so that the liquid washes not only the tonsils, but the pharynx and posterior nares as well. This should be repeated every hour or two. It is very important that these solutions should be neutral. Some of the preparations of the peroxide of hydrogen are acid and will crack the mucous membranes of the lips and mouth. This is very distressing to the patient and interferes with the ease with which these washings can be made and also with the taking of proper nourishment.

In nasal diphtheria the nose should be irrigated, preferably with a saturated solution of boracic acid. On the first day of the disease this irrigation, which should be done every three or four hours, without force, perhaps with a fountain syringe, is for the sole purpose of keeping the parts clean; but after the second or third day, when the membrane begins to exfoliate, an occasional more forcible injection with a ball nasal douche will often detach membrane which was perhaps only partly separated. The writer has frequently been able, in this way, to detach large masses of membrane, sometimes clearing out both nostrils and the posterior nares with one of these forcible injections. By removing these membranes it is made possible for the patient to close the mouth and breathe through the nose. Care should be taken that nothing is forced into the Eustachian tube, this is avoided by instructing the patient to keep the mouth open. When, because of the youth of the patient, this cannot be accomplished by instruction, a gag of some kind should be placed between the teeth, and the mouth kept open during the douching. But should the liquid be forced into the Eustachian tube, which is not likely to occur as the swollen mucous membrane will tend to prevent it, even this would be preferable to having the foul, putrefying mass retained and the patient poisoned thereby, besides polluting the atmosphere and making the danger of infection greater to the attendants and other members of the family.

This is all that need be done in the way of local treatment; the administration of astringent or cauterizing agents cannot be too strongly condemned. The internal treatment is very simple and consists in the administration of strychnine in essence of pepsin, or some other vehicle. This is given simply as a cardiac tonic and to aid digestion. The tincture of the chloride of iron and chlorate of potash are to be condemned as they tend to derange the stomach and cannot in any way be productive of anything but harm. Alcoholic stimulants are indicated in only very severe cases.

The after-treatment consists in administering remedies directed toward hastening convalescence—such as tonics, preferably syrup of the iodide of iron.

The feeding is most important, and as the appetite is generally not good, I have come to believe that the best results can be accomplished by catering to the patient's fancy. Frequently the proper nutrition has been afforded by feeding a child on ice cream. Whatever beef extracts, liquid peptonoids, milk, or other foods are used, what is desired is to sustain by proper nutrition, until such time as the disease ends and the normal appetite returns. To accomplish this purpose every practitioner of experience will have his own methods.

In feeding intubated cases, as the toxemia is not apt to be so great, either because the membrane is not so extensive or the larynx does not absorb the poison rapidly, it is my custom to give internally nothing but water for twenty-four hours. This is done because of the danger of occluding the tube with particles of food or curds of milk; besides which the mouth is kept cleaner. After twenty-four hours, when the child has become more accustomed to the tube, ice cream, canned condensed milk, and thick gruels are given. One must use his own judgment in the matter of feeding. Some children are averse to taking nourishment of any kind, but, if patient search is made, some one thing will be found that the child will take with pleasure. I recall more than one case in which, after intubation, children have lived for several days on beer, taking it with avidity and rejecting everything else. I do not especially recommend beer as an article of diet for children with diphtheria, but simply mention this, to show how sometimes the unthought-of thing will serve the purpose in an emergency. When children refuse everything, feeding through the nose is preferable to rectal alimentation.

I have said nothing about calomel sublimation and other methods often employed as accessories, because I do not believe in them. Calomel sublimation, especially, I think cannot be too strongly condemned. I believe it irritates the mucous membrane and renders the patient more liable to complications, such as bronchitis and pneumonia, besides being productive of salivation in the nurses and discomfort generally. Steam inhalations to be effective require that the atmosphere should be saturated with moisture. This necessitates the closing of windows and doors, raises the temperature of the room, and prevents the free supply of oxygen, which it is necessary to have in order to secure good results.

Membranous croup is almost always diphtheria, and after intubation should be treated as such. Patients with croup are often found in whom there is no membrane at all in the pharynx,

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and a culture does not reveal the true bacilli. But if intubation is practised and a culture taken from the first expectoration after the tube is in place, the Klebs-Loeffler bacillus will invariably be found. This is a fact to which I have never seen an exception.

The character of the disease is altered when diphtheria is complicated with other affections, as scarlet fever, measles, whooping-cough, etc. It is my invariable custom, when any of these latter affections show membrane, to inject from 2,000 to 2,500 units of antitoxin at once, before taking a culture. Indeed, there are many physicians who invariably employ antitoxin in their scarlet-fever cases, some even going so far as to say that it affects the course of the disease favorably.

Whether this is so or not, and it has never been authoritatively stated that such is the case, one thing is certain, namely, if antitoxin is used in these cases from the beginning and an antiseptic or neutral solution of hydrogen peroxide used in the throat, one will never have diphtheria complicating scarlet fever; and, further, if the antitoxin does not affect the fever favorably, it is safe to say, and say positively, that it will not affect it unfavorably.

Another dreaded complication, and one which not infrequently carries off patients after intubation, is bronchopneumonia. Some believe that this is traumatic and is due to particles of food passing through the tube, or even to the irritation of the tube itself. Be this as it may, I believe that this condition can sometimes be prevented, if nothing but water is given during the first twenty-four hours. I believe, also, that careful examination of the patient will often find the right heart weak and overdistended with venous blood.

By careful stimulation of the heart by means of aromatic spirits of ammonia, strychnine and nitroglycerin, and by careful reduction of the temperature by cold sponging, and not by means of the various coal-tar preparations, bronchopneumonia can often be prevented and a favorable termination of the disease brought about, without further medication.

The sequelæ most commonly met with in diphtheria treated with antitoxin are a rash and occasionally joint pains. The treatment of the rash is symptomatic—relieve the itching, when the rash is in the form of urticaria, by cold sponging with alcohol and water. This will also reduce coexisting elevation of temperature. The joint pains are treated by rest in bed and administration of the salicylates.

I should like to say a few words, while on this subject, about the probable cause of the rash which sometimes follows the injection of antitoxin and which so often resembles urticaria. Tilbury Fox gives as one of the causes of urticaria "the circulation of acrid effete products in the blood." It may be supposed that a child with diphtheria has a certain amount of excrementitious matter in the blood, which the kidneys, the lungs and the skin will eliminate in the ordinary course of events; indeed, it is not necessary to suppose the child to have diphtheria or any other disease, as these excrementitious matters are being eliminated all the time, and continue naturally up to a certain point.

But it is well known that there is a limit to the excreting power of these organs, and when the blood is overcharged with these effete products an explosion must take place somewhere and, as the skin is the greatest of the excreting organs, it is apt to occur there. Some people get urticaria after eating certain articles of food, because the skin is being called upon to excrete more than it is able to do with ease. Supposing that into the blood, already charged with these effete products, a certain amount of horse-serum, also charged with the hippuric acid and other excrementitious products of the horse, is injected, the consequence will be that the human blood becomes overcharged with this excess of effete matter, and the kidneys and lungs, being incapable of eliminating more than a certain amount, the skin is called upon to dispose of the rest. It does it, but at the same time presents this condition of urticaria. This being the case, it has occurred to me that if the excrementitious salts held in solution in this horse-serum could be eliminated, the occurrence of the rash might be prevented.

I believe this could be accomplished by the process called dialysis, the only question being, Would the antitoxin in the serum be sufficiently soluble to be separated also? I make this suggestion for what it is worth, and leave it to the chemist and physicist to determine what its value may be.

In conclusion let me say (1) that antitoxin is a positive cure for diphtheria, when employed in sufficient quantity and sufficiently early in the disease; (2) that even when employed too late in the disease to produce its specific action, it cannot under any circumstances be productive of harm; (3) that when used before the invasion of diphtheria, antitoxin possesses a positive immunizing power which lasts about thirty days.

A good deal has been said and written about the failures of antitoxin, but in none of these cases has it ever been stated what quantity of antitoxin was employed, how early it was given in the disease, what complications existed before using, or how other medication as, for example, large doses of bichloride of mercury, may have contributed to the unfortunate ending. There is antitoxin which is not of standard strength and has little or no antitoxic value—it may be too old, or it may have been obtained from a sick horse—but if the practitioner of New York will use the antitoxin prepared by the New York Health Department, which is always as it is represented to be and always at his command, and use it fearlessly and invariably in all cases of diphtheria, *whether mild or severe*, he will get good results and have no occasion to regret its use.

336 East Eighty-fourth Street.

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PROBLEMS IN THE ETIOLOGY, DIAGNOSIS AND TREATMENT OF TUBERCULOUS DISEASE OF THE UPPER AIR-PASSAGES.*

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FROM the earliest times to the present the idea has always existed, and it has occasionally been the accepted doctrine, that consumption is infectious. The historian from whom I quote[1] adds the remark, "Undoubtedly a susceptibility is always associated with it." This perhaps is as good a synopsis of a modern thesis on the etiology of tuberculosis as can be given in a few words. It is with the details of the question we are at present concerned. The question of the etiology of tuberculosis in general does not enter the province assigned to me in this discussion. I have many times protested against the tendency to consider the tubercle bacillus as the sole agent in the production of tuberculosis. This tendency has arisen from the fact that it has been convenient to classify disease, in the last few decades, on the basis of etiology, rather than on that of pathology or on the still earlier basis of symptomatology, but, after all, the etiology and pathology of one generation is apt to become the pathology and symptomatology of the next. This tendency is still more due to the fact that the tubercle bacillus is the tangible factor while the others, although quite as important are as yet imperfectly apprehended. The problem which now confronts us in the study of the causes of tuberculosis is the necessity for finding a method, perhaps in organic chemistry, by which we may investigate those factors which render the morbific influence of the tubercle bacillus an efficient one in the production of disease in the animal economy of its host. The discussion of this also lies beyond the limits assigned to me, though these factors enter quite as largely into the real etiology of the local disease as does its bacillus.

It is unnecessary for me to remind you how frequently the presence of the tubercle bacillus has been demonstrated not only on the surface of mucous membranes, especially of the upper air tract, but in the internal organs and the lymphatic system of man, without the production of that congeries of lesions and symptoms which we indicate by the term tuberculosis.

In examining microscopically more than a hundred specimens I have failed to find either the tubercle or the tubercle bacillus in ordinary hypertrophy of the lymphoid material of the throat. While I unhesitatingly deny that the tubercle bacilli are ever the cause of large tonsils and adenoids, it is not alone on account of this failure to find them on my part that I am disposed to doubt that this overgrowth of tissue is the *chief* pathway by which the tubercle bacillus enters the organism. Others have found them. From a total sum of nearly a thousand specimens of tonsils and adenoids examined the ratio of 5 per cent. has been deduced[2] as the proportion of latent tuberculosis in them. I have elsewhere[3] entered fully into the reasons why I am disposed to doubt the reliability of these statistics, and the repetition of them here is unnecessary. However, in the face of all this conscientious work by many observers, it is impossible to deny that hypertrophied lymphoid tissue may absorb from its surface the tubercle bacillus deposited there by the passing air-current and the food. Furthermore, although the experiments of Hodenpyl[4] led to a contrary inference, the more recent investigations of Goodale[5] and Hendelsohn[6], I think, have set at rest the question as to the power of the lymphoid tissue to take within itself inorganic particles placed on its surface. It does not seem any possible violation of close scientific reasoning to venture the belief that they may act in the same way toward the tubercle bacillus. While I believe the ratio of 5 per cent. too high for the occurrence of the so-called latent tuberculosis, I am not at all disposed to doubt the occurrence of latent tuberculosis of the tonsils in a smaller and as yet undetermined ratio. But if we have very numerous researches upon which to form an opinion as to the part played by the abnormal hypertrophy of the surface lymphoid tissue, singular to say we have nothing to base our opinion upon as to the part played by the surrounding normal mucous membranes of the nose and throat. Since their chief function is absorption and transmission, one would suppose that the healthy lymphoid tissue would act more promptly and thoroughly than the diseased structures upon which these observations have been made. Or are we to suppose that tonsils and adenoids have a greater absorbing power than do the normal elements in the mucosa from which they spring?

I think we have good reason for the belief that the tubercle bacillus usually enters the tissues of man before it reaches the stomach by the esophagus or the lungs by the trachea. Many no doubt reach the stomach, but the destructive power of the gastric secretions on the germs in the food is apparently very marked for pathogenic bacteria. We must assume at present that the tubercle bacillus passes into the lymphatics through the mucous membranes of the naso- and oropharynx in a very large proportion of the cases of pulmonary infection. To deny other ports of entry would be dogmatic and is unnecessary. We have no means of venturing an accurate assertion as to the relative frequency of travel along the various possible pathways of primary infection. I think there can be no doubt that the bacillus can pass directly, either by intra- or intercellular channels through the surface epithelium of the mucous membranes, and without a solution of continuity in the stockade of columnar epithial cells. In at least one case of tuberculous laryngitis I have had an opportunity of observing this, as a plate in a former contribution[7] clearly shows. I do not believe that a previous infection by pyogenic cocci is a necessary step in the process, as Lake has intimated[8]. Galen in his time pointed out very clearly[9] that the nose and upper air-passages have

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for their function not only the warming of the inspired air on its way to the lungs, but of filtering out of dust-particles. It has since been demonstrated[10] that they act in like manner toward bacteria. Indeed, *a priori*, the waving cilia of the epithelium and the residual pulmonary air are anatomical phenomena which constrain us to believe that the bacillus of pulmonary tubercle and the dust of pulmonary anthracosis do not reach the periphery of the respiratory system of the lungs by the air-channels themselves. They must be carried thither by other agencies. We know of none except the blood-current and the lymph-stream. We find them in the lymph-channels and we have many reasons for believing they are thus carried, but the difficulty of submitting the blood-current and its channels to microscopic examination in this respect, the absence of any such blood-filters as the lymph has in its nodes, preclude us from denying or asserting that the blood-vessels also carry the germs from the surface. But perhaps this is not a very important point in the consideration of the subject. The lymph-channels do carry material absorbed from the surface whether the blood-vessels are also carriers or not. The interesting, and I venture to predict significant, phenomenon connected with the subject of infection is that apparently the mucous membranes absorb, the lymphoid material harbors, and the lymph-channels carry the tubercle bacillus and yet are themselves relatively immune to its morbific influences as compared to the walls of the bronchioles and air-vesicles. We must remember, however, that this is not so much the case with the cervical and bronchial glands, though many observers believe that they are as a rule only secondary points of development, the primary nidus being in the lungs; but the mucous membranes of the upper air-passages not only receive the primary deposit of the infecting agent, but they are subsequently, in case of the establishment of a pulmonary nidus, washed by the virulent cultures thrown off from the distant point of development, without themselves, as I have just said, in the majority of cases, presenting evidences of morbid action.*

Now, if in the air-tract we try to arrange the anatomical localities in the order of the frequency of development of tuberculous disease, we find it proceeds pretty regularly from the walls of the bronchioles and air-vesicles to the nose, the larynx perhaps being more frequently involved than the trachea or larger bronchi on account of its greater mobility and the complexity of its gross anatomy.[1]

The lungs, the larynx, the oro- and nasopharynx, the nose, this being the order of frequency of the site of tuberculous disease, and, in all but an insignificant number, the lungs being the primary seat of the efflorescence of the disease and the other localities merely incidents in the total history, when it occurs to us that this is the inverse order of frequency in the primary contact of the tubercle bacillus in the air-current, there seems no escaping the conclusion that the tissues themselves possess powers of resistance in certain localities which they do not have in others. Now, what does this possibly mean? We must keep in mind what the bacteriologists teach us as to the enormous variations in the virulence of the bacillus itself. We must remember the individual as well as the generic variation of both bacteria and their hosts in the general scheme of the bacterial etiology of disease. I am not here concerned with the bacillus nor with its relation to general systemic processes in disease, but with the phenomena of its relation to the nose and throat. The same phenomena are to be observed elsewhere. It adds nothing to our actual knowledge to theorize, but it adds greatly to the efficiency of our intelligence to do so, and it is an immense help to us in subsequent investigations and experiments. Shall we say that the tubercle bacillus only acquires virulence as to its host in its passage from the throat along the pathways of infection to its point of development? This seems fantastic. Shall we imagine that its greater frequency upon or adjacent to the mucous surfaces of the nose and throat has induced a sort of local inoculative immunity? Or shall we say that this greater exposure has in the process of evolution of the animal organism produced a graded *local* immunity which is inherited? Then comes the familiar, but the uncomfortable thought, does not evolution partly mean the weeding out of susceptible strains generally, by exposing them to the ravages of disease? And if our somewhat arrogant hygienists really succeed in decreasing the number of exposures by their onslaughts on the bacillus, will not the susceptible strain in the human race increase and the net result be the same, unless the bacillus is totally annihilated? It is thus easily seen how quickly and necessarily one drifts out of special channels into broader, if one but follows one's argument to its inevitable conclusion of interrogation.

I am very anxious that the etiological problem

*In the early statistics of Louis (Recherches Anatamo-Pathologique sur la Phthisie, 1825), out of 102 cases in which the air-tube was examined postmortem in deaths from phthisis, the epiglottis was involved 18, the larynx 22, and the trachea 31 times, but he does not state distinctly the relation of the involvement of any or all parts of the tube to the whole number of pulmonary cases. His statistics are moreover vitiated for use to-day by the non-exclusion of syphilitic and other ulcers of the air-tube, and the same may be said of Trousseau and Belloc's treatise on laryngeal phthisis in 1837. Heinze is the only author of modern date who goes as high as 51 per cent. It must be remembered that all these and many other statistics are from the autopsy-table in cases of pulmonary phthisis, and include the ravages of the last stage of the disease in which not infrequently the whole air-tube suddenly breaks down into ulceration. At an earlier period the proportion is much less. Out of 25 patients I examined in the second and third stages of pulmonary phthisis, I found involvement of the upper air-passages in only 4, or about 16 per cent., which corresponds fairly well with the laryngoscopic examinations of other observers.

[1]I wish to explain that I am not now considering latent tuberculosis of the tonsils and lymph-nodes, which, if it is to be called a disease at all, is to be considered a disease thoroughly repressed by the resisting forces of nature, and therefore as contributing to the striking phenomena to which I am alluding. Clinical tuberculosis is one revealed by the symptoms and not exclusively by the microscopic study of the tissues. I should also say that Trousseau and Belloc long ago stated that the trachea was more frequently affected than the larynx, but Andral about the same time made a contrary observation (Clinique Medicale, 1834, T. 4, p. 182) and I do not now recall any observations of late years which throws any more light on this particular point, for the advent of laryngoscopy by revealing the laryngeal lesion clearly and the tracheal lesion obscurely, or not at all, has confused rather than elucidated this point, and is especially open to error from a clinical standpoint because the symptoms in tracheal ulceration are comparatively mild and apt to escape notice in the presence of other lesions.

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with which I have been concerned should be stated not in its usual form, "What is the cause of laryngeal tuberculosis?" but rather what is the cause of the comparative immunity of the upper air-passages? We should always be reminded of this when the fact is brought to our attention that primary disease of the upper air-passages is so rare that its very occurrence has been doubted. So far as the bacillus is concerned, he seems to be powerless until he has been baptized in the lungs and born again, or until he has there on his vantage-ground sapped the forces of general systemic resistance. I hope I have been able to present this phenomenon in its proper vivid light, as a puzzling problem of vital importance.

I see upon referring to the program that I am expected to say something of the pathology, but it seems to me I may safely neglect this, at least so far as concerns its histology. The pathology of tubercle in its microscopic features is the same everywhere and it has often been said that Virchow many years ago selected the larynx as the place where the common type of the lesion can best be studied. Although Trousseau and Belloc failed to note tubercle in the larynx in their cases of ulceration with pulmonary phthisis, considering the ulceration of a simple inflammatory nature, Broussais as early as 1806 had observed it.[11] Since the development of laryngoscopy the gross pathology is better considered under the heading of diagnosis.

In the consideration of the remaining part of my subject which I shall have time to touch upon, I shall confine myself exclusively to that lesion which is at once the most common in occurrence, the most distressing to witness, and the most difficult to treat, namely, laryngeal tuberculosis.

In speaking of the diagnosis there are three points upon which I wish to dwell with especial emphasis, (1) the diagnosis of incipient laryngeal tuberculosis; (2) the differential diagnosis of tuberculous from syphilitic laryngitis, and these include the (3) salient point, namely, the microscopic examination of the sputum.

1. When the laryngologist is aware that his patient is suffering from pulmonary phthisis and has come to him for hoarseness, he is naturally on the alert for the detection of the involvement of the larynx in the disease. He is still more so if the patient also complains of pain. Upon looking into the larynx and finding it much reddened, but without any local hyperplasia or infiltration, he may be pretty confident that the laryngeal symptoms and appearances are dependent upon the cough and perhaps upon the general systemic debility. This frequently, even postmortem, deceived the early observers. The phthisical patient may come with much less-marked symptoms than in this secondary catarrhal laryngitis, and yet have in his larynx the unmistakable evidence of tuberculous disease in its incipiency. Inspection reveals in addition to the pale larynx and velum palati, so suggestive of pulmonary phthisis, one which is congested only in spots. There is a heaping-up of proliferated epithelium on the posterior wall, the pachydermia laryngis. But these are appearances which are merely suggestive, not confirmatory of tuberculous laryngitis. We must have some local infiltration or ulceration to render this suggestiveness a probability, a certainty it cannot become until we have exluded syphilis and found the bacillus of tubercle.

The description of the laryngoscopic appearances of tuberculous infiltration and ulceration of the larynx can best be left to the text-books and the routine descriptions, though I often question the utility of surrendering space even there to them. I doubt if any one ever made a diagnosis of a tuberculous or syphilitic ulcer from his experience with didactic descriptions alone. Neither shall I say anything of the symptomatology.

I have been supposing that the laryngoscopist was informed from the symptoms, or history, or physical examination, as to the condition of the lungs. The case is very different when there is no suspicion of pulmonary involvement. I am familiar with the eloquent and impressive phases with which many writers delineate the accuracy of diagnostic acumen possible in laryngoscopy which recognizes at a glance without collateral evidence the existence of pulmonary phthisis. I have no hesitation in disclaiming any personal skill of this kind. The cough, the emaciation, the pallor, the patient's apprehensions, and his history, put me on my guard. Laryngoscopy strengthens or weakens my suspicions, but I confess I have to go further for a diagnosis. Physical evidences of pulmonary involvement with the laryngoscopic evidence will form a probable diagnosis, but the presence of the tubercle bacillus must confirm it. Before proceeding further in the question of differential diagnosis we must consider the second point of interest.

2. Syphilis of the larynx is not a common occurrence in my experience, syphilis of the lungs is not unknown to it. When the two are combined they present a clinical picture which is sure to deceive the unwary diagnostician who lays too great a stress upon the element in differential diagnosis of most frequent occurrence. What makes this mistake more distressing to the conscientious practitioner is the fact that laryngeal syphilis is usually an easily curable disease, but with the same treatment as that used in laryngeal tuberculosis it is almost as fatal as the latter. The observers who first studied these laryngeal affections in the early part of this century were continually confounding them and they were both called laryngeal phthisis. In no other affection does such great importance attach to the diagnosis. It is usually a matter of life or death to the syphilitic patient. The comparative futility of treatment makes it of less importance to the tuberculous patient.

With a history of syphilis and scar-tissue in the pharynx or on the epiglottis, with the peculiar sharp-cut serpiginous ulceration characteristic of syphilis of the mucous membranes, the diagnosis is easily made, but local appearances in syphilitic disease, while frequently different from other forms of ulceration and we thus speak of characteristic

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conditions, may so exactly resemble those of a tuberculous nature that they are indistinguishable from it. The promptness and suddenness with which laryngeal stenosis may supervene in syphilis is a differential diagnostic point which is frequently neglected. Tuberculous laryngitis is usually not accompanied by dangerous dyspnea. Syphilitic laryngitis usually is.

Fortunately there is usually no difficulty in clearing up the diagnosis, if the observer is on his guard. "Always think of syphilis and keep on thinking of it," irrespective of long personal acquaintance with the patient and his family, disregarding any church-going proclivities and notwithstanding his solemn asseveration. All the patients whom I have seen die from this mistake on the part of their medical attendants and one who was saved by previous experiences, were innocent women, who so far as could be learned from the history, had apparently unknowingly acquired the disease.

3. The greatest practical benefit which is at present clearly demonstrable we have derived from the discovery of Koch is the diagnostic value of the tubercle bacillus. In incipient cases of pulmonary involvement the bacillus is frequently absent from the sputum or there is no sputum as we all know; but where there is a laryngeal lesion resembling syphilis the primary pulmonary lesion has usually advanced so far that it is very exceptional, indeed, to be unable, on careful repeated examination, to find the tubercle bacillus.

Therefore in these cases of laryngeal disease it is of the utmost importance, both in the incipient stage and in the ulcerative stage when there is danger of confounding it with syphilis, that the sputum analysis should not be neglected. If the bacillus is not found iodide of potash and mercury should be given until the case is cured or the diagnosis is clear. I have many times urged caution in this regard and I do not hesitate here to reiterate a warning which may occasionally save a life.

Treatment of tuberculosis of the larynx, still more even than treatment of pulmonary tuberculosis, is a most vivid reminder of the impotency of man in the face of the destructive forces of Nature. Our helplessness lays us open to the bitter satire of that gifted ancient charlatan, Aesclepiades, who pronounced the therapeutics of Hippocrates to be the contemplation of death. It is doubtless true that occasionally a patient recovers under various methods of treatment. They also recover in exceptional instances without local treatment. There is a retrogression of the tuberculous infiltration and a cicatrization of its ulcers. This occurs under the local application of many medicinal agents, lactic acid and creosote being the most frequently employed in the last decade, iodoform and various balsams being perhaps as frequently used during the preceding ten years. Quite as extravagant and enthusiastic claims have been urged for one drug as another. So far as the impartial observer may judge the results have been approximately the same. I am under the impression that in laryngeal, as in pulmonary tuberculosis, climatic change is the most effective agent in the cure of the disease. Unfortunately such a very large proportion of these cases are inevitably doomed that it is cruelty to send them away from home to die, while in quite as large a number of cases climatic change for financial reasons is impracticable. It is not a part of the subject allotted to me to enter into the discussion of climate in the treatment of phthisis. Suffice it to say that the ideal treatment of laryngeal phthisis would be one in which the local measures could be judicially and skilfully carried out during the continuance of climatic treatment.

A few words must be said as to the surgical treatment of tuberculous infiltrations of the larynx, a procedure so popular with our German confreres. Again when we come to consider the results as to cure it is only a repetition of what has been said as to the application of drugs. A certain very small number recover under treatment. Whether more recover under this plan than under other methods or without treatment is a question which has never been satisfactorily answered, though frequently asked. Even the most enthusiastic advocates of the method admit that a large majority of the cases seen are unsuitable for operative treatment. From what I have said it will be clear that I am of the opinion that after an exhaustive search of the statistics, after an impartial weighing of the statements of numerous writers, after an extended clinical experience, the unbiased observer will come to the conclusion from the evidence thus studied, and not from that of a few selected cases, that the permanent radical cure of the local lesion of tuberculous laryngitis is not materially hastened by the various methods of treatment in any but an insignificant number of cases.

Now, I have been speaking of that part of the treatment of tuberculous laryngitis which is expected to end in its cure, and by that I mean the permanent cicatrization of the ulcers and the complete disappearance of infiltration from the larynx. When we discuss the palliation of the dreadful symptoms, we are dealing with another matter. Indeed, it not infrequently happens in tuberculous disease, and is characteristic of lupus for partial cicatrization of the ulcers or partial absorption of the infiltration to occur at one place and more extensive involvement to begin at another point and possibly in a locality where it cannot be seen, as in the ventricles, or where it ceases to produce pain, as below the cords or deep in the tissues. We therefore very much more frequently witness partial or temporary healing and even apparent cure than complete and convincing eradication of the disease. With this incomplete cure is a marked cessation of the distressing symptoms and a consequent increase in the euphemistic and hopeful mood of the patient. This brings me at once to one of the most important elements in the palliative treatment of the disease, the psychical one. It has always been recognized as a peculiarity, indeed, we may say as a symptom of phthisis, that the patient

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is possessed, to the point almost of obsession, of belief in his continued improvement and ultimate recovery. No intelligence is too profound, no physical condition is too desperate, for the entertainment of this delusion, or of this assurance—a striking refutation of the influence of mind over disease and a striking illustration of a less mysterious phenomenon, the influence of disease on the mind. Now, it is the height of folly and it is the depth of cruelty to declare to this patient that nothing can be done for the cure of his laryngeal condition. It will bring about a depression, temporary, it is true, but productive of a marked injurious influence upon his general condition. In most cases we may evade technical falsehood by virtual deception, telling the patient much can be done in the way of treatment which may relieve his sufferings. Often he will not press his physician for more, for he, as Petrarch said in one of his Latin letters, "clings to every glimmer of hope and soothing the anguish of his soul with treacherous supports, ne forgets the most familiar of his own experiences." Any active local treatment, if it does not really aggravate the patients suffering, is pretty sure to produce grateful expressions of a belief in its efficacy and a lively hope of a successful issue. It is a fact that lactic acid and probably some other drugs will stimulate torpid granulations to a more florid and healthy appearance, frequently cause a marked diminution in the amount of secretion, more rarely bring about a decrease in the inflammatory swelling of the tissues, and even occasionally produce an evident cicatrization at the edge of the ulcers. I can testify from my own experience that even complete healing of a tuberculous ulcer may thus occur. More than ten years ago such a laryngeal condition healed in this way for several months while the patient was pregnant, but subsequently, I think after more than a year, the laryngeal trouble recurred with stenosis and in spite of an intubation which relieved the latter symptom, she rapidly succumbed to her pulmonary lesion. This, however, is with me an almost unique experience and I regarded the case at the time as cured. I cannot doubt as I look back on it now that for some reason, perhaps from the curetting which was also done, or possibly from systemic reasons, the tuberculous disease subsided and was held in abeyance. Less striking results than this are not infrequently attained and any diminution in the intensity of the morbid process causes marked amelioration of the distressing symptoms when aided by the psychological element just alluded to. Even when no apparent change in the lesion can be noted, the assurances of the patient are for a time often very gratifying if not, to the experienced observer, encouraging. The local application of iodoform, and especially of orthoform in the elegant prescription employed by Freudenthal, produces frequently a more marked influence by its continuous use upon the pain, but it has seemed to me that it has not so frequently produced a better local condition of the laryngeal ulceration. The intralaryngeal or intratracheal injection of oils impregnated with various volatile substances, especially menthol, frequently, for the time at least, ameliorate the pain and the cough. As for the opiates internally, their employment is often justifiable and indicated. The local application of cocaine is rarely of any value, as it does not exert much influence on inflamed tissue. Detergent sprays wash away the secretions and give relief until the latter gather again, the impression on the patient's mind being often more lasting.

Finally, in a patient without much fever, with considerable vital force yet remaining, with proper fortitude of mind, but especially with the docility which seems more common in the Teuton than in the American, the removal by cutting forceps and curette of granulations and infiltrated tissue, especially the surface vegetations covering ulcers and the infiltrated substance of the epiglottis, is often followed by the most happy results as to the relief from the tormenting dysphagia, and less frequently by cicatrization of the wound. The submucous injection of various medicaments, especially creosote and lactic acid, does not appeal to my understanding of pathological processes, but it has its advocates in the larynx as well as in the joints, who are just as positive and enthusiastic and as honest as the partisans of other procedures. Indeed, as to the *cure* of laryngeal tuberculosis by agencies at our disposal in the present stage of our knowledge, honest belief as to that seems to be largely a matter of individual temperament, but being a debatable field it affords an opportunity for much dishonest expression of sentiment which deserves only our contempt. Even the perfectly honest, but unduly exaggerated expression of opinion as to the results to be attained by any method of treatment and the uncritical narration of the histories of only favorable cases has been very misleading. This tempermental optimism, together with the barefaced charlatanry which suppresses what the reporter knows to be the whole truth, has unfortunately been a great detriment to the conscientious study of the treatment of this terrible disease. One cannot expect human nature will allow men to be constantly exhibiting to the world their own dismal failures as an offset to the reported brilliant successes of others. Yet it is only by the unflinching and conscientious adherence to what one believes to be the whole truth that we will stimulate that activity which may in the future find that cure for tuberculosis in man which we do not now possess.

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NOTES ON THE INTERESTING CASES OF A MONTH'S DISPENSARY PRACTICE.[1]

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THE object of a paper read before our Society I understand to be to present original observations and research or to promote discussion. Only the latter object can be served by these cases from the Demilt Dispensary, for they have no relation to each other, nor are they rare diseases.

Peripheral Neuritis.—Maggie B., aged thirty-one years, was a large-framed married woman, very obese. She came from the country a healthy young woman. Here she began the use of beer and liquors which increased her weight, but she lost in energy of mind and body. Four months ago she had so much pain in the limbs that she took to her bed. There was great weakness when walking, so that she had to be supported from both sides. The cutaneous reflexes were preserved, but seemed slow. The wrist-drop and foot-drop were incomplete. The appetite was poor and digestion imperfect. There was marked constipation most of the time.

Neuritis is classified as localized, multiple, acute polyneuritis, recurring and alcoholic. All these forms were readily eliminated except the last. The treatment ordered was iron, quinine, and strychnine, and no alcohol. Later she went to the hospital where she could have electricity and massage.

Universal Eczema.—Ellen St. J., married, forty-two years of age. For some weeks there had been an ulcer an inch in diameter on the right ankle. As it itched she bathed it freely with alum solution. After a vigorous bathing one night she found the itching extending up the leg and thigh. It later involved both legs and extended to the genitals and trunk. Next the face and neck were affected and, finally, the arms. The ears, eyes—in fact, all the face—were greatly swollen, red, moist and bullous. At this time she was treated for erysipelas. She came under my care as the face began to improve. Desquamation commenced in flakes, as it did over the body and limbs.

Treatment consisted of solution aluminium acetate externally, with rhubarb internally. The patient had menstruated irregularly for a few months, but was in as good general health as women usually are at the menopause. The diagnosis was not exactly certain. The first physician declared the disease erysipelas and gave up the case as he claimed he could not attend it and confinements. The tumefaction of the lips, eyes and ears may also be prominent in dermatitis exfoliativa. Itching is marked in both. The rapidity of extension and fine, bran-like scales tend to strengthen the diagnosis of dermatitis. The case was entirely cured in six weeks.

Pneumonia.—Frank B., aged four years, had a catarrhal pneumonia with a temperature reaching 104° F. The usual temperature in bronchopneumonia I find lower than that in the croupous form. The case progressed well under an alkaline mixture of acetate of potash and niter without antipyretics. During convalescence a malt preparation with hypophosphates was given.

The second pneumonia case was in a child of three years. Here there was a fibrinous pneumonia of the left upper lobe. This child, although "a boarder" and poorly nourished, managed to recover thoroughly. When I was in the hospital as interne every case had stimulants and an oiled silk jacket. Neither of these patients, in fact none of my pneumonia patients, have either. For a time I had oiled silk jackets made and lined with lambs' wool instead of sheet-lint or cotton. Of late, without special reason, I do not order jackets.

Alcoholic stimulants I definitely eschew because when given in considerable quantity they cause stupor and greatly interfere with digestion, in both cases masking the symptoms of the disease out of proportion to the value received. There are many physicians and many different views as to the value of alcoholic stimulants, but it is very clearly seen, upon consulting recent works on therapeutics or practice, that the majority of authors recommend alcohol "cautiously," "with judgment," "in certain cases," and the like. The day of "alcohol by the pint" has passed. Tirard says in his recent work on treatment, "but the lavish employment of stimulants as a mere matter of routine is distinctly to be deprecated."

My treatment is a very simple alkaline mixture early, and strychnine late. Children bear both strychnine and nitroglycerin well in doses of $^1/_{500}$ or $^1/_{250}$ of a grain, according to age and degree of weakness. I order an occasional dose of Dover's powder at night or phenacatin, with $^1/_{30}$ grain of morphine. Digitalis, strophantus, and caffeine are much lauded and perhaps used. Tirard recommends small doses of chloral with a stimulant for restlessness. I believe that the outcry against coal-tar antipyretics is unnecessarily loud. Large doses in weak subjects do cause collapse. Likewise do aconite and veratrum viride if pushed too far or prescribed unwisely. For many years my favorite antipyretic, when one was needed, has been acetanalid in one- or two-grain doses for children and five-grain doses for adults. Suitable doses do not require alcohol to offset evil effects. Poultices of flaxseed relieve the pain and dyspnea of the croupous cases, but cannot wisely be continued much more than two days. A mustard and flour poultice gives as much local heat and is more suitable for catarrhal cases.

Typhoid Fever.—During the past four weeks there were four typhoid patients aged eighteen, eight, five and three years, respectively. This is in proper accord with the season, since 75 per-cent. of the cases occur during the last four months of the year, hence the old name "autumnal fever." These cases were typical of the disease as it occurs in youth and childhood. The eight-year-old child had a temperature of 104.5° F. at the end of a week. She presented rose spots, dry, parched skin, feeble, compressible pulse, and marked apathy. The bowels were loose, but diarrhea was not severe. Her mother was in the hospital with

[1] Read before the City Hospital Alumni, October 10, 1900.

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typhoid and I sent her there also, as there was no one to care for her at home. She made a good recovery.

The five- and the three-year-old children were brothers. The source of infection was not known. Each had spots and slight enlargement of the spleen. The three-year-old child had high temperature and stupor. He was bathed to reduce temperature and took no medicine except a simple cough mixture. When convalescence began he took elixir of iron, quinine and strychnine. The three-year-old child was dull and apathetic, but had no diarrhea. As he had a coated tongue and no appetite, I ordered the officinal rhubarb-and-soda mixture. In reality he took very little of it. A sample of blood from the older boy gave the Widal reaction promptly. The diagnosis was made independently of it, however.

I am still one who believes in clinical diagnosis and, though glad to have bacteriological confirmation, am not willing to have one bacteriological negative offset clinical evidences that are positive. When there was an epidemic of twenty-eight cases in the hospital the blood was always examined for Widal and generally the urine for the diazo-reaction. The reaction usually showed typhoid to be present, but the failure to substantiate the diagnosis weighed little.

The fourth patient, eight years of age, is still quite ill. She had the "characteristic semicadaverous, musty odor." During the diarrhea period she one day had about thirty stools. The spots on this patient were very few. Tympanites and stupor were both marked, the former not until the diarrhea was checked. This patient was given the antiseptic tablets of Woodbridge for two days with good result. How the $^1/_{960}$ grain of podophyllin acts is a mystery. Salol and bismuth in paregoric and mucilage formed the treatment part of the time.

Milk and liquid peptonoids formed the basis of food for each of these cases. I often allow ice cream and begin early to add custard, eggs, etc., to the dietary. None of these fever patients received any whiskev. To be sure, there is alcohol in the peptonoids, but in small quantities.

The prognosis is good in childhood, but when death does occur it is from about the same causes as in adults, *i. e.*, hemorrhage, pneumonia or exhaustion. Nursing is more important than drugging. Exact rules should be laid down as to prophylaxis. At present in the United States 27,000 patients are lost each year—a standing army wiped out. My share in this mortality has been 2.95 percent. of my cases.

Chicken Skin Grafting.—According to Bianchi and Fiorani (*Gazz. degli Osped.*, Dec. 2d, 1900) chicken skin has been successfully used for human skin grafting. They report the case of a female patient 50 years of age suffering from gangrenous erysipelas. After the termination of the erysipelas a large granulating surface was left. Fourteen grafts were taken from the skin of the breast of the chicken. Only three failed to grow.

CLINICAL MEMORANDA.

A CASE OF ADIPOSIS DOLOROSA.

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IN 1882 Dr. F. X. Dercum, of Philadelphia, published under the title "A Subcutaneous Dystrophy Resembling Myxedema," a description of a peculiar case observed by him, and a few years later he gave the appropriate name adiposis dolorosa to the disease, as best describing the symptoms characteristic of it. Very few cases have been observed, and as yet but little is known about the etiology of the disease, and there is a considerable difference of opinion as to what constitute the absolutely essential symptoms and what are merely incidental to the score of cases on record. This element of doubt must be my excuse for publishing a case which, while agreeing closely with the cases on record, has many points of divergence.

The disease has thus far been found to occur always in women, generally just past middle life, and almost invariably has been associated with some neurotic or alcoholic taint. It is characterized by the development, sometimes symmetrically, sometimes irregularly, of masses of fat, which are or have been painful, either spontaneously or on pressure. Sometimes the pains are like those of a neuritis and precede by some time the appearance of the fatty mass, and the mass itself is said to be usually softer than is simple adipose tissue. It imparts to the touch a sensation like that of a varicocele. These adipose masses vary in size, but in well-developed cases exceed very much the measures of those of my patient, and somtimes appear to vary in size with the presence or absence of paroxysms of neuritic pain, although they never at any time totally disappear. A peculiarity in the distribution of this adipose tissue is that in no case thus far recorded has it occurred on the hands or feet or face.

Certain nervous phenomena have been noted by various observers, such as diminished cutaneous sensibility, extending even to local cutaneous anesthesia. There is often a complaint of great muscular weakness, and in a few instances the reaction of degeneration has been elicited. Hematemesis, epistaxis and excessive menstruation have been so commonly found that they may be considered symptoms of the disease, while other signs, such as headache, impairment of mind, bronchitis and purpura are very likely only incidental. Painful swellings along nerve trunks have been observed frequently. The skin itself is usually unchanged, is soft and pliant, but often very dry, and sometimes contains more pigment than normal.

In Dr. Dercum's original case an examination of the eye revealed contraction of the field of vision for form and for color, and some of the other senses seemed somewhat blunted. In two of his cases, in which autopsies were obtained, the most striking pathological feature was the calca-

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reous infiltration and induration of the thyroid gland with changes, as yet unstudied, in the structure of the nerve-tissues. He concludes that the disease is a connective tissue dystrophy, with a fatty metamorphosis, associated with symptoms indicating a possible neuritis.

According to the same observer, the differential diagnosis lies between acromegaly, myxedema, simple obesity and *lipomatosis perimuscularis circumscripta*. The first two affect the hands, feet and face markedly, and are not painful, while adiposis dolorosa has thus far not been observed in these regious, and has pain as a prominent feature. In the last two the fat is symmetrically distributed, especially about the face and neck, while there is entire absence of pain.

My patient came to consult me about a number of painful nodules and tumors scattered over her body, and gave the following history: She is of American birth and twenty-nine years old. Her mother is living, and is very stout; her father is dead, but she does not know the cause of his death; she has two sisters, one of whom weighs over 200 pounds, and although both have been married some time, neither has been pregnant. There is nothing to indicate that the sister has adiposis dolorosa. There is no history of any hereditary disease in the family. The patient was very healthy as a child, but had measles and scarlatina; she began to menstruate at eleven years of age, and at sixteen married a man of thirty, who had several children by a previous wife, but the patient has never been pregnant. She menstruates profusely, sometimes as often as every two weeks, and has been treated for some uterine disorder, judging from her description, endometritis, with ulceration of the cervix, for which she was curetted. She now has not any symptoms indicating uterine disease excepting profuse menstruation and sterility.

The patient has a good appetite, eats heartily, is constipated, and not living very happily at home; she shows a pronounced neurasthenic tendency, and at times is probably hysterical. Eight years ago she weighed 130 pounds, and had a good figure. At that time she noticed a small lump on the inside of the left thigh, half way up from the knee. It was subcutaneous, and gradually grew larger, until at the present time it is two inches in diameter, and is very painful on pressure, but not otherwise. This swelling is superficial and rounded, is covered by normal skin, shows no signs of inflammation, and feels like a fatty tumor. During the last year similar bodies have appeared, as follows: One on the right arm over the triceps muscle, and one on the left arm, near the insertion of the biceps. There are none on the face or neck or upper part of body, but several small ones have lately appeared about the forearms. There are five or six in a chain on the outside of the right thigh, and several more on the left buttock, and one has lately made its appearance near the inner aspect of the right knee. During the past three years the patient has been getting very stout, the flesh not being distributed evenly, for it does not show on the face or forearms or lower limbs. There are great rolls of fat about the breast and back and buttocks and upon the upper arms and thighs, but there is not any pain in these rolls unless some of the smaller fatty tumors already alluded to are present.

The patient when first seen weighed 206 pounds, and her measurements were as follows: Height, 5½ feet; a No. 6½ glove and a No. 5 shoe are worn easily; ankle, 8½ inches in circumference; calf, 14½; thigh, 27½; hips, 43½; waist, 28; bust, 42½; upper arm, 14¾; lower arm, 10; collar, 14½. The appearance of these fatty tumors, she says, is preceded for several days by an aching sensation, and at times the limbs are cold, while at other times they burn and throb. She nearly always feels tired and weak, and says her skin is at times numb; at present sensation seems normal. Her thyroid gland cannot be made out. She has a good face, not at all fat, an intelligent expression, and aside from her constant disposition to melancholy shows no decided mental peculiarity. She has a good deal of dark hair, which shows no tendency to fall, and her skin was at the beginning very smooth, soft, of a good color, and performed its functions normally. I cannot elicit any history or symptoms of syphilis, except a vague and constant pain in the bones, which, however, does not seem to be periosteal in character. With the idea of relieving this she was given dram doses of iodide of potassium three times daily by another physician, but without any effect.

Bearing in mind the fact that in the cases which have gone to autopsy, the thyroid has been found to have undergone calcareous degeneration, the patient was put on gradually-increasing doses of thyroid extract, reaching as high as thirty-five grains a day. The results were that her weight was slightly reduced, and with it some of her measurements, but treatment seemed to have absolutely no effect on the peculiar tumors, either with reference to their size or tenderness, although the patient declared that she felt much lighter and stronger. The improvement, however, was not marked enough to cause her to persevere in the treatment. Being an outdoor patient, and very irregular in her attendance, my records are very incomplete as to the condition of the urine and blood, and permission to excise portions of tumors or take photographs was repeatedly refused, and the patient finally left the clinic. Under thyroid medication the skin had become notably less soft, and showed a brownish pigmentation.

117 East Twenty-sixth street.

Placental Transmission of Tuberculosis.—This vexed question is answered by G. d'Arrigo (*Centralb. f. Bacteriologie*, Dec. 8, 1900), as follows: Inheritance can possibly take place in three ways: (1) By impregnation of ovum by bacilli containing spermatozoa; (2) by infection in an ovum which is from a tuberculous ovary; (3) by the passage of the bacillus through the placenta. He has never found the necessary conditions for the first two, but has obtained experimental proof of the last.

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LIGATION OF THE INTERNAL JUGULAR VEIN FOLLOWED BY THROMBOSIS OF THE LATERAL AND SIGMOID SINUSES.

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THIS ligation is not infrequently performed, though the subject, strange to say, has been much neglected in medical literature. Removal of malignant growths of the neck is the usual indication for the ligation of the internal jugular, which, when ligated, materially facilitates the removal of the growth. The operation here referred to is not the one that has been performed so frequently and about which so much has been written during the past few years, in connection with thrombosis of the lateral sinus in middle-ear disease. Here the jugular has been occluded by a thrombus, and is easily tied as the vessel is devoid of blood.

The ligation of the full jugular has always been considered an operation which was followed by a high mortality, this having been confirmed by the earlier statistics of Braun, who collected fifty-one cases, with a mortality of 12 per cent., all due to secondary hemorrhage. Even at this time there is a large mortality following the operation. Rohrbach has collected seventy-seven cases of ligation of the internal jugular during the removal of malignant growths of the neck, with thirteen deaths, although he claims that none of these were the direct result of the operation. In the series of ninety-one cases collected by him only one death was directly attributed to the operation. In thirteen cases of ligation for wounds of the vein reported by him there were no deaths. In all these ninety-one cases collected secondary hemorrhage did not supervene in a single case.

It is now accepted as a fact that secondary hemorrhage is due to an infection, a factor which can be practically excluded by our modern methods. This is confirmed by Rohrbach's statistics.

The internal jugular is frequently wounded during the enucleation of glands and growths of the neck, necessitating a lateral ligation or suture. Braun has collected thirteen cases of lateral ligature, with a mortality of three; these statistics clearly demonstrating that the repair of the vessel-wall is accompanied by a far greater mortality than the actual ligation, and that the lateral suture is more fatal than the lateral ligature.

The following case was recently operated on in my service at the City and County Hospital. The patient, a man aged fifty years, with no luetic history, no hereditary tendency, entered the hospital to be operated on for a tumor, the size of an infant's head, which extended above to the jaw and almost to the medium line. It was firmly fixed to the tissues beneath. The diagnosis was carcinoma. The urine contained considerable albumin and casts, but the kidneys were secreting a normal amount of urine. The arteries were atheromatous. The operation was carried out under chloroform narcosis, and the base of the tumor quickly exposed. The jugular was found involved to such an extent that its removal was decided upon. The vein was tied one inch above the subclavian, and the distal end also ligated, about two inches of the vein, together with the growth, being removed. There was no reaction, no circulatory disturbance, no change in the size of the pupil. The patient reacted perfectly from the effect of the operation. The temperature and pulse were normal and the wound quite dry. At the end of the fifth day the patient became sleepy, slightly delirious and snoring, evacuating urine in bed. Temperature, normal; pulse 100° F.; respiration, 30 and stertorous. The pupils were moderately dilated, reacting to light. The kidneys were excreting profusely. Wound appeared normal; primary union. The diagnosis of the extension of the clot to the brain was made on account of the absence of paralytic symptoms, the gradual development of the coma (excluding uremia on account of the free flow of urine), and the stertor indicating some brain pressure. All of this subsequent to a ligation of this nature made the diagnosis probable. The patient died in coma on the sixth day.

The following is the report of the autopsy:

The wound of the neck was quite healed, the tissues presenting no evidence of suppuration or infection. The sternum and clavicle were removed and the vessels inspected in position. The peripheral end of the vein was obliterated, quite collapsed and devoid of blood, the silk ligature being intact and buried in the tissues. The distal end was found with some difficulty, as this end was deeply buried in tissues, already in full process of repair; the ligature on this end was also found intact. The distal end was distended by a firm clot. The brain was removed and the base of the skull exposed, when it was immediately recognized that the sinus on the operated side was distended with blood. Upon opening the lateral sinus down to the jugular foramen, an organized clot, continuous with the clot in the jugular, was discovered. The sinus on the opposite side and the longitudinal sinus contained only fluid venous blood. The arteries of the brain were atheromatous. There were no gross brain lesions. The kidneys presented the lesion of chronic parenchymatous nephritis. That this complication subsequent to ligation of the internal jugular is of infrequent occurrence is easily shown by reference to Rohrbach's statistics.

In this case infection was practically excluded for the thrombus was in full process of organization, as can be readily seen by the microscopic section prepared by Dr. Asch, of the City and County Hospital, to whom I here extend my sincere thanks.

The indications laid down by Rohrbach for the ligation of the internal jugular are as follows:

1. Hemorrhage due to a laceration or erosion—here the lateral ligature or suture has its place.
2. Tumors involving the vein.
3. Periadenitis due to tuberculous lymphomata closely adherent and inseparable from the vein.
4. Aneurismal varices.
5. Pyemic otitis, complicated by thrombosis of the lateral sinus.

606 Sutter Street.

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MEDICAL PROGRESS.

Localization of Naming Center.—The cortical centers of several of our special senses have already been very definitely localized and by thoroughly studying clear cut cases showing, during life, the loss of some particular function of speech or hearing all the brain centers undoubtedly will soon be fully and definitely made out. G. M. HAMMOND (*Med. Rec.*, Dec. 29, 1900) reports two cases which were fully studied and the lesion localized later, but the findings do not entirely correspond with previous theories. One man was struck in the left side of head, fracturing the skull, and when he recovered consciousness had almost complete anomia, or loss of power to name objects. There was no motor aphasia, no word-blindness. On operating, a subdural hemorrhage was found along the superior temporal convolution. There was a rupture of the cortex at the junction of the middle and posterior thirds of the gyrus. One year later there was a very slight word-deafness which had been present from the first, but his anomia had entirely disappeared. The second case was one of softening of the middle third of second temporal convolution, secondary to thrombosis. There were no motor paralyses and no disturbances in sensation. There was no motor aphasia and the special senses were normal. He was completely word-deaf, word-blind and agraphic, leading to a diagnosis of the lesion, being situated in the superior temporal and angular gyri. The author, therefore, believes that word-blindness and deafness do not always imply that the lesion is situated in the higher visual or auditory centers, but that a lesion of any part of the speech area may so disorder the complex mechanism of the associated speech centers that any form of sensory aphasia may result.

Medullary Narcosis.—A further addition to the literature of medullary narcosis is given by H. VULLIET (*Therap. Monatschft.*, Dec., 1900). In operations below Poupart's ligament, including the genital organs, the patients invariably complained of numbness and formication in the feet after 1 to 3 minutes; in 4-6 minutes anesthesia in the lower extremities had set in, and in 6-8 minutes this had reached up to a line somewhere between the umbilicus and the bimammillary space. After the lapse of ¼ hour the sensibility of arms, shoulder and thorax was much diminished. Certain interesting cases are quoted, thus in one patient the entire body became analgesic, another had lost thermic sensibility. After 1½-3 hours sensation to pain returned from above downward, and in not a few there was ataxia in the legs. Operations on the sexual organs seemed to be especially adapted to this form of narcosis. In hernia and appendicitis operations the method was less uniformly successful. For the neck and upper extremity it proved entirely inadequate. The usual dose employed was between 15 and 20 milligrams. Of after-effects, nausea and vomiting rarely disturbed the patient. Many, however, complained bitterly of headache, which lasted in some cases 2 to 3 days. Collapse symptoms were never found.

Gonorrheal Endocarditis.—A case of chronic malignant endocarditis, due to the gonococcus is analyzed by G. W. MC CASKEY (*Med. Rec.*, Dec. 29, 1900) showing also the findings at autopsy of a valvular lesion difficult to diagnose during life. A severe chill following self-catheterization on account of an old gonorrheal stricture brought the first notice to the case. Six weeks later the patient began to have general malaise, afternoon temperature, and progressive loss of flesh and strength. He had recovered from a severe attack of typhoid one year previously. The left ventricle was markedly hypertrophied, and a systolic and diastolic bruit were present over the second left interspace. It was also heard in the interscapular region behind. Later a severe hemiplegic attack occurred from an embolus, and numerous purpuric spots appeared before death. The aortic valves were thickened, distorted, roughened, and covered with vegetations. The mitral valves were somewhat insufficient, largely due to the dilatation of the left ventricle. The gonococcus was found upon the valves. The case seemed interesting also on account of the presence of the murmurs on the left side, due to lesions of the aortic orifice.

Suprarenal Extract in Middle Ear.—L. S. SOMERS (*Therapeutic Gazette*, Dec. 15, 1900) says that the aqueous extract of the suprarenal gland has a wide field in reducing congestion in all acute inflammations of the tympanic membrane and in all conditions of the external canal with presence of granulation tissue. It is necessary, however, to combine the solution with some antiseptic, since decomposition with subsequent septic infection is especially liable to follow in the aural canal; the addition of carbolic acid and eucaine has been found serviceable. In acute inflammation of the drum, with or without envolvement of the tympanum, the instillation of from five to ten drops of the solution previously warmed will give temporary relief, and if this is repeated the affection can frequently be aborted in its early stages. Another advantage lies in the fact that, through the hemostatic action of the solution, incisions can be made without loss of blood.

Oral Sepsis.—Great stress is laid upon the importance of recognizing septic conditions of the upper part of the digestive tract by W. HUNTER (*Practitioner*, Dec., 1900), who believes that besides the local effects of gingivitis, stomatitis, necrosis, alveolar abscesses, pharyngitis, tonsillitis, etc., which are sufficient to cause much disturbance, there is a still more important influence exerted upon the stomach and the whole constitution. Dental disease is frequently the cause of indigestion in consequence of being a

gastric infection. The continuous swallowing of mouthfuls of pus organisms is not tolerated by the stomach mucosa, but besides any actual general infection there are those constitutional effects due to septic absorption, which the author believes quite common. The usual manifestations are the dirty ashen-gray look and general languor, irritability and feelings of intense depression which frequently occur without any local symptoms. Three cases of neuritis are also reported, simulating the condition which sometimes occurs in pernicious anemia, but which are given to illustrate how a toxic neuritis can be caused by the prolonged neglect of an intense condition of oral sepsis. The treatment should consist of direct application of strong antiseptic solutions to the diseased tooth or root and for a mouth wash he recommends a teaspoonful of carbolic, 1 to 20 or 1 to 40, in half a tumbler of water. All diseased stumps, roots or diseased areas must be energetically and thoroughly cleansed.

Ophthalmia Neonatorum.—As generally applied, the term ophthalmia neonatorum includes all of those cases of mucopurulent or purulent discharge from the eyes that presents itself during the first two or four weeks of the life of the child, and the general inference is that the infectious material enters the conjunctival sacs during or immediately after the birth of the child. JOHN E. WEEKS (*Amer. Gyn. and Obstet. Jour.*, Nov., 1900) says this impression should be slightly modified when one recognizes the fact that infection sometimes occurs antepartum, and that in those cases which develop later than three days after birth, the infection is almost always from a source other than the genitals of the mother; also that there may be a purulent secretion present in the conjunctival sac during the first month of life due, not to inflammation of the conjunctiva, but to an inflammation of the tear-sac dependent on an impervious lacrimal canal. The writer says that the gonococcus of Neisser is almost invariably the cause of this disease when the discharge appears before the end of the fourth day after birth. In the way of prophylaxis, a 1-1000 solution of corrosive sublimate, or a 2-per-cent. solution of nitrate of silver, instilled into each eye at the time of the first bath has given the best results. Weeks discusses the treatment of this inflammation after reviewing briefly the conditions obtaining in the eyes at this period. He describes the treatment under four headings, as follows: (1) Mechanical. The conjunctival sac should be cleansed very frequently with a 3-per-cent. solution of boric acid, or a sterile normal salt solution, or a 1-15,000 to 1-20,000 solution of corrosive sublimate. The solution should be warm or tepid. (2) The conditions for the development of the micro-organisms should be made as unfavorable as possible by reducing the temperature of the conjunctiva by cold applications, made continuously from one to four hours at a time, repeated three times daily. Pledgets of linen or cotton moistened and laid on a cake of ice may be employed, and should be changed every one or two minutes, as soon as warm. This treatment should cease when the swelling of the lids disappears. (3) The micro-organism should be destroyed as far as possible by the application of a germicide. For this purpose nitrate of silver, 0.5 to 2 per cent., bichloride of mercury, 1-5,000, protargal, 20 to 40 per cent., formalin, 1-3,000, are the best agents. The writer prefers 1-per-cent. solution of nitrate of silver applied to the entire surface of the conjunctiva once a day until the discharge from the conjunctiva ceases. (4) Constitutional treatment, which should be directed to the general improvement of the child's condition. The writer says that ophthalmia neonatorum treated by this method seldom results in impaired vision.

Inhalations in Pulmonary Diseases.—The success he obtained in treating pneumonia by inhalations of oxygen passed through boiling water, in which had been placed one dram of a mixture of creosote, oil of turpentine and compound tincture of benzoinum, has lead CLEMENT A. PENROSE (*Johns Hopkins Hospital Bull.*, Nov., 1900) to give the method a trial in other pulmonary diseases. His experience with this method in pneumonia proved definitely that (1) oxygen being heated and mixed with steam was more readily absorbed, less drying of throat and tongue, and more agreeable to the patient; (2) passed through a heated inhalation mixture like the above, it certainly had a marked antiseptic effect on the mouth and tongue, as shown by the pearance of these parts; (3) the pleasant odor of the inhalation mixture gave something tangible for the patients to breathe, who therefore made greater efforts to inhale the oxygen. Either oxygen, or compressed air, or simply steam alone, or a combination of these agents, was used in a number of cases varying from simple coryzas, various catarrhal affections of the pharynx and nasopharynx, grip, acute and chronic bronchitis, to pulmonary tuberculosis, with astonishing results. In some cases no internal medication was employed with results, when the inhalations were used early, about as good as when it was. A very few inhalations were sufficient to terminate quite severe cases of grip. The writer recommends, when a cylinder of oxygen can not be afforded, the "Benzoinal Inhaler" or the "Hynson and Westcott Inhaler." At the start he uses the following formula: ℞ Creosote (Beechwood), Olei Terebinthinæ, aa drams 4, Tr. Benzoini Co., ounces 3. Of this mixture one dram is placed in a pint of hot water. As the patient becomes accustomed to the fumes, more and more of the creosote and oil of turpentine is gradually added until the mixture consists of equal parts of the three ingredients. The inhalations, to be effective, should be systematic and of from ten to fifteen minutes' duration each. The above inhalation mixture should be combined with steam alone, with steam and oxygen, or with steam at home and

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with steam and oxygen at the office. The writer reports in detail three cases illustrating the beneficial results of regular inhalations of each of the above combinations.

Hyperidrosis of Axilla.—After testing various local and constitutional treatment for the above distressing skin lesion, L. KOLIPINSKI (N. Y. *Med. Jour.*, Dec. 29, 1900) has made use of a rather radical, but apparently successful method of dealing with this condition. The idea is to convert patches of skin with their hypersecreting glands into scar tissue and with this end in view he shaves and sterilizes the axilla and, without any anesthetic, thoroughly uses the thermocautery, turning one-half or more of the superficies of the axilla into burns of the second and third degrees. It is said that the pain is not severe. A dry bismuth or zinc-oxide dressing is applied and the patient is able to resume his work in a few days.

Bronchopneumonia in Infants.—A recent paper by ROSENTHAL (*Thèse de Paris*, 1900) contains some interesting conclusions based on a study of 23 cases of bronchopneumonia in infants. They are as follows: Bronchopneumonia results from descending respiratory infections by non-specific bacteria, pathogenic or accidentally pathogenic ones. The infection is extremely contagious in infants. Out of 19 cases of infantile bronchopneumonia, 15 were induced by Pfeiffer's bacillus, pure in 2 cases (1 benign, 1 fatal), associated in the other 13 cases with either the pneumococcus, streptococcus, diplostreptococcus, and enterococcus. In several cases the author found the enterococcus of Thiercelin (bronchopneumonia of intestinal origin). Rosenthal agrees with Marfan that the cachexia of sucklings is primarily gastro-intestinal in origin, later becoming pulmonary in character. The terminal bronchopneumonia progresses in an insidious fashion, the fatal ending occurs when the intestinal symptoms have disappeared. Fever is very slight, and the dyspnea scarcely appreciable.

Hypertrophy of the Thymus in Leucemia.—A contribution to the interesting and unusual feature of leucemia has recently been made by MOIZARD and ULMANN (*Archives des Médecine des Enfants*, Dec., 1900). A review of the literature of leucemia shows that hypertrophy of the thymus is barely mentioned as a complication or accompaniment of the disease. The first report of this condition dates back to 1871 when Cnyrim described before the Congress of Medicine held at Frankfort that year the occurrence of an enormously hypertrophied thymus in a child, five years of age, suffering from leucemia. Since the further contributions have been made by Krause, Cahen, Fabre, Lebedinski and Grawitz. A few cases of enlargement of the thymus have also been described in Hodgkin's disease by Bennett, Murchinson, Eberth and Birch-Hirschfeld. The patient observed by the writers was a girl, five years of age, who was brought into the hospital after having been sick but a few weeks. When admitted there was considerable edema about the parotid, submaxilliary and palpebral regions. The lips and extremities were cyanosed; respiration was hurried and laborious. The tonsils were large and the gums swollen. The lymph-nodes were much enlarged; liver and spleen were similarly augmented in size. The blood-count showed the presence of 1,252,400 reds, and 54,250 whites. The child died of asphyxia. The autopsy findings confirmed the clinical diagnosis. The thymus was further found to be much enlarged (8 mm. x 6 cm. x 8 cm); weight 111 grams. The intrathoracic pressure was found to be largely due to the encroachment by the enlarged thymus. The microscopic features of the thymus have considerable interest; the whole organ was transformed into tissue resembling that of an ordinary lymph-node, with a complete disappearance of Hassal's corpuscles.

Leucocytes in Acute Rheumatism.—ACHARD and LOEPER (*Comptes Rendus de la Société de Biol.*, Dec. 7, 1900) have completed a study of the leucocytes count in acute rheumatic fever. In the fourteen cases studied, they constantly observed a leucocytosis reaching as high as 21,000 to the cubic millimeter; the increase was essentially polynuclear in type, rarely over eighty per cent. Toward the end of the acute period, as well as during convalescence, the eosinophiles were found rather high (13 per cent.). Sometimes during the febrile period myelocytes were present in two- or three-per-cent. proportions. The joint fluid was examined in four cases and found to contain almost exclusively polymorphonuclear leucocytes.

Histological Diagnosis of Rabies.—The great practical importance of the histological method of diagnosing hydrophobia, recently introduced by Van Gehuchten and Nélis, led CARLOS FRANCA (*Comptes Rendus de la Société de Biol.*, Nov. 30, 1900) to further investigate its usefulness in current practice. The animals made use of by Van Gehuchten and Nélis died as the result of the natural progress of the disease; most of the material sent to laboratories for examination consists on the other hand, of tissue from animals killed before the disease has sufficiently progressed to kill them. To find out in how far the histological method could be relied upon with such tissues was the main object of França. The conclusions of the writer are as follows: (1) In rabid animals which died prematurely the ganglionic cell-changes described by Van Gehuchten and Nélis were sometimes absent. (2) In these animals it is the rule to find round extracapsular elements in greater or less numbers. (3) The bulbar lesions appeared on the whole more intense than those of the ganglion cells. (4) It is impossible to wholly rely on the microscopic findings in the nervous symptoms of prematurely-dead rabid animals in establishing the diagnosis of hydrophobia.

Ascarides Lumbricoides and Appendicitis.—The following observation of ARBORÉ-RALLY

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(*Arch. de Méd. des Enfants,* Dec., 1900) is of considerable interest in showing how closely under some conditions the presence of the ascarides lumbricoides in the intestine may induce symptoms simulating those of appendicitis. The case in question was that of a ten-year-old child who had been sick for three days when seen. The patient had been suddenly taken ill with intense pain in the abdomen, followed the next day by vomiting; the bowels were constipated. When first seen the author found the child with fever, rapid pulse (120), and incessantly vomiting. Recurring abdominal pains (intervals of fifteen minutes) and cutaneous hyperesthesia all over the abdomen made palpation difficult. The point of maximum pain was in the region of McBurney's point; there was also considerable abdominal rigidity. On the fourth day the condition became more aggravated, with some tympanites and increased tenderness over the appendiceal region. The condition became so urgent that surgical consultation was obtained; but it was decided to wait a little longer. Finally, during the night of the fourth day of illness, an ascarides lumbricoides, 16 cm. long, was vomited. Thereafter amelioration was quite rapid.

The Bone Lesions of Myxedema.—Most observers who have studied myxedema regard the bone lesions met with in this affection as rachitic in character. SIEGERT (*Archives de Médecine des Enfants,* Dec., 1900), however, in a recently published paper contends that the lesions of the osseous system in myxedema are of a very different character. The author finds, instead of the premature ossification of the long bones in rachitis, a tendency quite the other way in myxedema, as shown by the investigation of Hofmeister upon rabbits. The epiphyseal catilages in lieu of early ossification, as in rachitis, remain cartilaginous more or less indefinitely. The writer further finds that the cartilages at the base of the skull persist, as well as the large fontanelle, in all cases of the congenital form, up to the age of thirty; in some cases even up to forty years. He conculdes thus: (1) The osseous lesions of myxedematous idiocy are specific in character, due to a hypoplastic chondrodystrophy. (2) They are wholly independent of rachitis; they present, on the contrary, a true antagonism to rachitis in their inception, development and results.

Fecal Impaction.—The difficulties and possible errors of diagnosis are illustrated by the following case, says DR. LICHTENSTEIN (*Centralblatt f. Gynaekol.,* Dec. 1, 1900): A few months ago he was hurriedly called in the absence of the attending physician to see a patient in the throes of long retained urine. Before obtaining any history he relieved her with the catheter, after coaxing it past a mass which compressed the urethra against the symphysis pubis and apparently filled the pelvis, of about 850 cubic centimeters of heavy foul urine. He then set about ascertaining the trouble and elicited the fact that the catheter had been in use for some time, owing to this slowly increasing mass which her physician said was a growth requiring operation, which had been delayed owing to her enfeebled condition. Ordinarily her health had been good, menstruation normal, bowels regular, appetite good. She presented an examination, pallor, accelerated pulse, no fever, general nervousness, fair strength and weight. In the right iliac and lumbar regions were many hard, round, uneven more or less fixed masses, which could be traced downward toward the pelvis. In the midline was the uterus displaced upward out of the pelvis. In the vagina the uterus was out of reach and the relations were distorted by the growth which appeared to be in the cul-de-sac of Douglas. By the rectum this mass was made out to be feces which had accumulated in the rectum, filling it and the pelvis completely, and the sigmoid colon was pushed over to the right. Manual cleaning of the rectum was done and large doses of castor oil ordered each night. For three days she continued to pass inspissated feces until finally her intestines appeared normal. Proper attention to her bowels after that effected a cure.

Bisection of the Uterus in Pelvic Surgery.—H. A. KELLY (*Annals of Gynecol. and Pediat.,* Dec., 1900) describes the following operation for the removal of pelvic inflammatory masses by the abdomen after bisection of the uterus. It is applicable to such cases as present the most dense and extensive adhesions between the uterus and its adnexa and all the surrounding viscera, so that the usual method of dissecting out one adnexum, then the uterus, and finally the opposite adnexum is not possible. The abdominal cavity must be minutely walled off with pads from the pelvis and all abscesses, cysts or hematomata reduced by aspiration to gain space. The bladder is then separated from the uterus and the fundus of that viscus found. In the middle line between two pairs of museau forceps the uterine body is bisected as far as the cervix for a supravaginal hysterectomy and as far as the vagina for a panhysterectomy. As the division is extended downward the clamps are advanced also, so that they act as tractors on the already bisected part. On either side of the cervical halves or stump the uterine vessels are isolated and ligated; each half of the uterus is freed from below upward from its adnexum, until this alone is left on each side for the final dissection in a free field. At times the uterus is adhered directly to the rectum. Then the anterior wall is first divided down to the cervix. Here the vessels are again secured and the uterus freed posteriorly from the rectum from below upward, step by step. As needed pieces of the uterine body may be sliced off if adherent to the bowel. When the uterus is finally free behind the posterior wall is bisected and the procedure as above followed.

Foreign Bodies in the Bronchi.—The peculiar absence of all urgent symptoms and the total recoveries of the following two cases of foreign body in a bronchus are of great interest, says E. F. SYRETT (*Lancet,* Dec. 15, 1900). Case I., boy, thirteen years old, first seen May 12, 1900, ailing for

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three weeks, cough, fever to 103° F., pain in the right chest, flushed cheeks, impaired percussion and deficient breathing over the whole lung, moist râles at the apex in front and behind in the right chest, abundant bloody, mucous expectoration. Rest in bed for two weeks was had, when normal temperature, persistence of the signs, but absence of symptoms induced ambulatory treatment. He was seen each week for the next two months and remained about the same. July 26, 1900, while struggling to take a stick from a dog, a violent attack of coughing came on and a small round pebble like a cherry-stone was expectorated. Recovery followed. It transpired that during a football game he had inhaled this stone while carrying it in his mouth. Case II., a thirty-three-year-old woman on September 12th, 1900, inhaled while under gas a wisdom tooth which the dentist had let slip. She had bloody expectoration and signs of a violent bronchitis over both lungs. On September 25th she coughed up the offender, hitherto not suspected, and went on to recovery.

Paraffin Injection in Incontinence of Urine.—R. GERSUNG (*Centralb. f. Gynaekol.*, Dec. 1, 1900) describes a case of obstinate postpartum vaginovesical fistula cured by operation, but followed by incontinence of urine, persisting for many years. This resisted several interferences, including three torsions of the urethra, following the last of which came gangrene of most of the canal. The patient then came under the author's treatment, which consisted in other attempts to twist the stump of the urethra and neck of the bladder and finally to cause a fold in the neck. Temporary improvement and then relapse occurred. The patient went home to rest in a condition of incessant dribbling while sitting, standing or walking and continence for only a short time and small amount while recumbent. After a while she returned for further treatment which was begun notwithstanding an acute gonorrheal colpitis. July 19th, 1900, under cocaine, paraffin was injected in a ring about the bladder end of the urethra remnant, in the form of unguentum paraffinæ, 3.50 grams. Irrigation was retained. After a few hours catheterizing was necesary and again the next day. After two days there was continence in the recumbent, but dribbling in the erect position of the trunk. July 26th, under cocaine, 2.50 cubic centimeters of the same preparation were injected, reinforcing the former and making a thick ring which was palpable from the vagina, apparent in the vestibule about the neck of the bladder and encroached upon the lumen of the viscus much as a slightly enlarged prostate does in the male. During the next twenty-four to thirty-six hours the patient was harassed by violent urinary tenesmus, recurring every five or ten minutes. Whether this paraffin ring or the complicating gonorrhea was the cause was never determined definitely, but the condition soon improved, and July 31st, at discharge, the patient remained dry in the erect position and in walking for one to one and a half hours. This control increased to five hours during the next three weeks while still under treatment for the gonorrhea. Meanwhile the paraffin mass had not in the least altered. October 25th the patient described her condition as much better; walking about she could hold her water for from four to six hours, for ten hours while resting. While active the bladder would contain about three and one-half deciliters. Micturition was voluntary, but intermittent, a good stream being interrupted at short intervals by brief dribblings until the bladder was empty. This seemed to depend upon respiration. Whether such paraffin injections will be generally serviceable remains to be proved, but the condition of this woman three months after treatment indicates that it has possibilities worthy of trial.

Prophylaxis in Asepsis.—A. HAMMESFAHR recognizes that the hands once infected cannot be rendered absolutely germ-free the same day (*Centralbl. f. Chirurg.*, Nov. 24, 1900), although it is possible to so reduce the number of germs as to render infection unlikely or trivial so that the ordinary body resistance will successfully combat it. Prophylaxis against inoculating the hands is the best and supreme method of acquiring asepsis and it is a duty alike to the surgeon, assistants, nurses and other attendants. Examination and treatment of all the body canals and cavities should be done with hands or at least fingers protected with rubber gloves or stalls against contamination, notably the mouth, throat, vagina and rectum. Bad teeth or other oral disease in the surgeon should be cured lest by cough or speech the wound become inoculated. The hair of the scalp and face should be kept closely cut. Seborrhea must not be tolerated. A beardless face is best. In removing dressings only instruments should be used and when these fall upon the operating-room floor attendants should handle them only with special forceps. After a septic operation has been done nothing in the room should be touched until the hands and gloves are cleaned, such as door-knobs, water-faucets, furniture, etc., which thus smeared can infect the next comer. For most operations rubber gloves, head bandage and all other precautions are commended. In ordinary social and professional relations some glove protection of the hands is advised to avoid the likelihood of infecting the skin unawares. In general terms such rational straightforward guardedness is enjoined upon the internes, who must not evacuate an abscess and then attend a confinement.

New Craniectomy Instruments.—L. GIGLI (*Centralbl. f. Chir.*, Dec. 1, 1900) claims the following advantages for his new craniectomy set: Simplicity, asepsis, rapidity, certainty and universal application. It comprises a special boring mill, curved hollow sound with traveling hook on a wire running in its center and a thread carrier. The borer consists of a large deeply corrugated, horizontally placed handle for the left hand to grasp. Through the body of this handle passes a short shaft horizontally and at right angles to the same. On this shaft plays a cogged pinion with the usual handle for turning it. The shaft which carries the drill is vertical to the foregoing and at its top has a small wheel meshing with the drive wheel. The depth of the hole is fixed by an adjustable guard

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whose face is across the axis of the drill. The cleanest and most rapidly drilled holes are given by the ordinary carpenter's auger-bit, with a central screw center and two lateral cutters. The diameter of the holes is best four to six millimeters. The curve of the sound is such that it can be passed through such a hole, between the dura and the bone and the position of its point is estimated from the direction and place of its handle. A little beyond this point the next hole is to be drilled. The thread-carrier is made of two small curved hollow staffs opposed to each other along their long axis and hinged at two places. At their center is a device by which the points may be separated or approximated and at the end of the shank is the handle which fastens off the thread. This starts down one staff out of its point, across to and into the point of the other, and so back to the handle. With the thread in position when the points are separated, it passes straight across the interval and where it is easy of access by the traveling hook of the hollow sound. Through the second hole the thread carrier is therefore passed and opened. The hook soon finds the thread and pulls it through the first hole with the wire saw following. Then the cut through the bone is made. The rapidity and very slight loss of substance of the bone commend it greatly.

Heart Reflex.—Some time ago a peculiar phenomenon, known as the lung reflex, was described by A. ABRAMS, which consisted in a dilatation of the air vesicles and a partial obliteration of the cardiac, liver and splenic dulness as a result of cutaneous irritation. He now describes and illustrates (*Med. Rec.*, Jan. 5, 1901) another condition called the heart reflex, which he has fully investigated and believes will be of considerable value in the future. He has found that if the skin in the precordial region be vigorously stimulated by rubbing with a blunt instrument, such as an eraser, a contraction of the myocardium is observed. The contraction is not sudden or of momentary duration, but lasts usually not less than two minutes and remains after the stimulation has ceased. In individuals with dilated hearts the reflex is very evident and of much longer duration than in normal hearts, and the nearer we approximate the precordial region with a fluoroscope and the more vigorous the cutaneous irritation, the more decided will be the change. The value of this sign can be readily appreciated in differentiating between a dilated heart and pericardial effusion. In estimating the amount of reduction of cardiac dulness, it is necessary to wait two minutes after the application of the stimulation, for the lung reflex which causes a diminution in cardiac dulness is not abolished until the end of that time. Although this strange reaction is better demonstrated by the fluoroscope, percussion is also at times very satisfactory.

Anteroposterior Subdivision of the Bladder.—EUGENE FULLER (*Jour. Cutaneous and Gen.-Urinary Dis.*, Dec., 1900) reports in detail two cases of this rare and interesting anomaly. These are, the writer believes, the first cases of this anomaly to be reported. In both these cases the tranverse partition lay anterior to the ureteral openings so that all the urine first entered the posterior vesical chamber. The anterior chambers were small, holding about an ounce to an ounce and a half, with rigid walls, while the posterior ones were roomy and distensible, comparing closely in those respects with the normal vesical cavity. The two chambers were connected in the upper middle portion of each partition by an oval aperture, and capable in one case of admitting at once the tips of the fore- and second finger. The vertical diameter was the greater. In the other case the connecting aperture was so narrow that it could admit only the tip of the forefinger. This aperture was round. In this case the bladder cavity resembled an hourglass except that the posterior vesical chamber was larger than the anterior. In both cases the distance from the base of the bladder to the lower margin of the aperture was much greater than from the upper margin of aperture to the superior wall of the bladder. In both instances the partition was very thick. In one case the cavity of the anterior chamber was irregularly spanned by numerous fine fleshy columns similar to the columnæ carneæ of the heart. The marked clinical feature in these two cases was the slowly-increasing difficulty in urination. This began in early life and finally ended with retention. This difficulty had been so gradual that a maximum amount of compensatory hypertrophy had developed in connection with both the vesical and abdominal walls. Both patients had urethral strictures, but this condition appeared to be a late and more or less accidental condition. Both gross and histological examination of the specimens showed that the prostate did not enter into the formation of the anterior chamber.

An Unusual Estivo-autumnal Case.—Malaria frequently causes such peculiar groups of symptoms that the microscope is the only means by which diagnosis can be made. G. L. PEABODY, (*Med. Rec.*, Jan. 5, 1901) reports the case of a patient who was received in the New York Hospital, suffering from severe headache which had recurred nearly every afternoon for six months, coming on about three o'clock and lasting usually until eight or nine o'clock in the evening. The patient had never had a chill, but his headache was accompanied by considerable fever, and for several months there had also been added to his daily distress severe attacks of abdominal pain, starting near the umbilicus and radiating toward the left kidney. The pain was sometimes relieved by walking and always by vomiting, so that the latter was frequently induced. The splenic area of dulness was increased and a firm, hard mass could be felt in the left hypo-chondrium, not extending beyond the free border of the ribs and not movable with respiration. The blood showed the presence of crescents, and the patient was put upon quinine, gr.

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xv a day, and Fowler's solution, ♏ iij, after each meal. After two weeks his attacks of headache, pain and fever had subsided, the spleen was movable with respiration and palpable. It is believed that the pain was caused by adhesions binding the spleen down and resisting the enlargement of that organ.

THERAPEUTIC HINTS.

Melancholia.—These patients, says Mr. Allen Starr, cannot be diverted and amused as they are exhausted and distressed and must not be encouraged to make efforts, therefore a quiet country place is most suitable. The food must be nutritious and easily digestible, and must be helped out by stimulants as wine or milk-punches. Intestinal antiseptics such as sodium benzoate, salol, or enteric pills of potassium permanganate, cardiac stimulants, vasodilators, and glycerophosphates, gram 1.0 (gr. xv), tid., constitute the routine medication. Warm baths and alternating hot and cold douches are beneficial. Morphine does not cause the habit and is specific in relieving the mental symptoms; it may, however, constipate. A good formula is:

℞ Morphin. bimeconat.
Aloin ....aa. 0.003 (gr. $^1/_{20}$)
Strychnin .... 0.0006 (gr. $^1/_{100}$)

Insomnia must be prevented by hypnotics, different types of these being used on successive nights.

Gastrospasm.—The treatment, write Van Valzah and Nisbet, is almost exclusively dietetic. In the beginning the diet should be soothing and small in quantity, as hot milk. The amount should be gradually increased, and after a week cereals, and later meats may be added, so that the stomach may gradually be rendered tolerant of larger and larger quantities of food. The bromides act only as palliatives, cannabis indica is uncertain, and belladonna is of no benefit. Aconitine and codeine in combination are of the greatest value. Vigorous massage is beneficial, and sedative galvanization and a hot compress may be tried.—*Diseases of the Stomach.*

Impetigo Contagiosa.—Scrub with warm water and soap, writes Geo. T. Jackson, and cover with 5-per-cent., carbolized vaseline, or oxide-of-zinc ointment with 5-per-cent. carbolic, or with 5-per-cent. ointment of ammoniated mercury. If crusts are present, remove by soaking with oil or warm water; if bullæ, prick at their most dependent part and let the fluid escape.—*Diseases of the Skin.*

Acute Epididymitis and Orchitis.—The treatment, writes Hermann Tillmanns, includes energetic catharsis at the outset, elevation of the scrotum, absolute quiet, and the application of ice. Repeated warm baths diminish the pain, or hypodermics of morphine, or rectal narcotic suppositories. The galvanic current also gives relief, the positive pole being placed on the testicle, and the negative pole on the cord. The author also likes inunctions of blue ointment. When the acute inflammation is over, employ moderate compression, preferably by an India rubber suspensory. Strapping the scrotum with strips of adhesive plaster is not only unpleasant to the patient, but also dangerous. If the patient can walk about, the scrotum is besmeared with vaseline and covered with rubber tissue with a hole for the penis, then with cotton and a suspensory, so that by the perspiration that forms on the scrotum the whole dressing makes an efficient means of applying moist heat.—*Text-Book of Surgery.*

Catarrh.—In nasopharyngeal and aural catarrh associated with anemia, Lennox Browne prescribes:

℞	Tinct. ferri chlorid..	0.65-1.3	(♏ x-xx)
	Ammon. chlorid.....	0.65-1.3	(gr. x-xx)
	Aq. chloroform.....	15.0	(℥ ss)
	Aqua. q. s.....ad.	30.0	(℥ j)

M. The sal ammoniac appears to aid the assimilation of the iron.—*Diseases of the Throat and Nose.*

Smallpox.—Quinine, in doses of 0.35 gram (gr. v) doses with camphor, 0.2 (gr. iij), and tincture of perchloride of iron are, writes J. W. Moore, the most valuable internal remedies. The following is useful:

℞	Tinct. ferri perchlor... ...	8.0	(ʒ ii)
	Acid. phosphor. dil.....	6.0	(ʒ iss)
	Glycerin	10.0	(ʒ iiss)
	Tinct. aurant.....	15.0	(℥ ss)
	Ap. chlorof. q. s.....ad.	180.0	(℥ vj)

Sig.: One ounce every six hours.

A palatable effervescing chalybeate is a mixture of a tablespoonful of:

℞	Ferri et ammon. cit.	8.0	(ʒ ij)
	Ac. citrici.....	10.0	(ʒ iiss)
	Aquæ. q. s.....ad.	180.0	(℥ vj)

with two tablespoonfuls of:

℞	Potassii bicarb.....	20.0	(ʒ v)
	Spt. chlorof.....	8.0	(ʒ ij)
	Aquæ. q. s.....ad.	360.0	(℥ xij)

Light should be kept from the face, and the surface heat and vascularity regulated by light poultices over the entire face, or a mask of lint steeped in glycerin and water, and covered with oiled silk. This excludes air, keeps the parts moist, lessens irritation, and so favors the prevention of pitting. Antiseptic and astringent dusting powders are comforting to the skin, such as boric acid, bismuth subgallate or:

℞	Ac. carbol.....	2.0	(ʒ ss)
	Zinci oxid.....	30.0	(℥ j)
	Lycopod	30.0	(℥ j)

The crusts should be separated early by linseed poultices. In the bad cases the delirium, the fetor, and the pain seem to be rapidly overcome by warm baths and alcoholic stimulants. Affections of mouth, tongue, and pharynx are best treated by ice and antiseptic sprays. Diarrhea may be controlled by starchy foods, by a poultice or wet compress on the abdomen, or by intestinal astringents.—*Twentieth Century Practice.*

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IN 1800.

THE nineteenth century has been an age of experimental creation in medicine. Innumerable facts have been gathered by diverse men in a slow, minute, painstaking fashion, and here and there, at some master touch, the seeing eye has discerned that underlying the scattered particles of fact there is a fundamental principle that, like a magnet, draws them all into correlation with each other.

The progress thus made in one hundred years is startlingly apparent in reading old text-books by the great medical men of the eighteenth century. The gaps they strove to bridge, the shrewd guesses at causes which the poor microscopes of the day had not revealed, the foreshadowing of treatment that is to-day established by experiment, all indicate how great has been the march toward health by the discovery of hitherto hidden principles.

A Century's Retrospect of Medicine forms the contents of the last number of the old century of the *British Medical Journal*, and in the series of papers describing the medical ideas in 1800, we find a picture of the times and conditions of hygiene and medicine that stimulates us to an appreciation of many nineteenth century blessings that we have learned to take for granted.

In a day when ladies wore low-necked and short-sleeved dresses out-of-doors in all weathers, and when the whole community was guiltless of woolen underclothing, and when no man would carry such a feminine thing as an umbrella, there was plenty of opportunity for pneumonia, "in which condition," says an eighteenth century text-book, "the lungs are sometimes converted into a solid substance very much resembling the liver." In an age when everybody ate too much, and drank to excess, digestion was but little understood. It was taught that digestion was performed in the stomach, and was no other than a corruption or putrefaction of food, performed by a menstruum that was chiefly saliva, for it was not until 1824 that Dr. Prout discovered hydrochloric acid in the gastric juice, and 1836 when Schwann isolated pepsin.

In Lambert's History of London (1806) we read, "No city in the world is better supplied with water than London, every house in which may receive a regular supply of this necessary article three times a week by paying a moderate annual sum to one of the water companies." The possibilities of hygienic living in 1800 were further limited by the use of cesspools, the total lack of bathrooms, and the evils of poor and inadequate drainage and ventilation, to say nothing of the absolute ignorance of the community on the subject of infectious diseases.

The great discoveries of the century cluster naturally around the discovery of germs, as the bearers and propagators of contagious diseases, and the discovery of antiseptics; but hardly less have the great advances in chemistry and biology opened the field for correct investigations in anatomy and physiology and every other branch of medicine.

One hundred years ago the nature of the secretions of the body was almost unknown, the mechanism of respiration was not understood, nor were the abnormal signs of it recognized until the stethoscope was applied. It was taught, in connection with the nerves, to quote one authority, that "from the vessels of the cortex a liquor is separated into the hollow pipes of the medulla which are continuous with the small tubes of the nerves even to their soft, pulpy extremities, so as to be the cause both of sense and motion." Concerning the brain the chief interest lay in determining the seat of the soul.

In 1800 the Retreat at York had been established for eight years, and the system there adopted of treating the insane with humanity

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aroused a frantic opposition, for the chain, manacle and muzzle method of relieving the community from the insane was in vogue. One-half the lunatics in Great Britain were not provided for, and, owing to the scanty accommodations in asylums, many were detained in prisons or workhouses, or chained in the cellar or in the garret, or else allowed to wander half-naked through the country. But the lot of these was considered enviable compared with that of those who were cared for in "madhouses," for the lunacy laws offered no legal protection for the insane. The generally-accepted method of treatment for insanity was described in 1900 as follows: "Patients are ordered to be bled about the latter end of May, according to the weather; after they have been bled they take vomits once a week for a certain number of weeks; after that we purge the patients."

In the last hundred years, smallpox as an epidemic has become a disease less to be feared than measles. Scurvy, the bane of sailors in the eighteenth century, is almost a disease of the past. Jail-fever has gone forever from the prisons; and hospitals, the greatest beneficence to science and to the sick, have grown to their present number and condition.

And yet it is not with the presumption of having acquired all knowledge that these men have reviewed the century's progress; but with a humility mingled with confidence that the advances which will be made in the next hundred years will show the knowledge of the present to be as inadequate and antiquated as that of a hundred years past in the light of to-day.

NEW YORK'S UNDERGROUND RAILROAD AND PUBLIC HEALTH.

FROM present indications the long-talked-of underground railroad is at last to become a reality. The undertaking, as is inevitable with any great innovation, is attended by many inconveniences and minor evils, not the least of which is the impassability of the streets where excavating is in progress. Even with the best possible arrangements for removal of *débris* and the speedy execution of contracts, New York must long suffer the presence of unsightly ditches in her thoroughfares and the unavoidable interference with business and travel.

Apart from the inconvenience there seems to be in the minds of many persons a fear that the excavations will be detrimental to health, chiefly by causing an epidemic of malaria. The idea that malarial germs are set free by exposing upturned earth is one of the popular misconceptions that is rapidly going out of fashion even in the minds of the laity.

Were the history of the *Anopheles* and its development in pools of stagnant water better understood this uneasiness would be readily allayed. In this connection it is well to remember that the cases of malaria appearing in our hospitals and clinics and sometimes in private practice hail usually from Jersey City, Long Island or the Bronx, where the extensive low-lying and swamp-grounds offer to the *Anopheles* exceptional breeding facilities. On Manhattan Island, however, owing to its extremely rocky formation, one rarely finds these conditions, consequently malaria is uncommon in this most populous portion of New York.

That it will increase does not seem probable, as it is not the mere turning-up of the earth, but the formation of pools from the possible bursting of a pipe or a heavy rainfall that causes the danger. Such pools, if allowed to collect and stagnate, might cause the excavations to become a menace to health, but proper drainage will be provided and precaution taken against such emergencies. Consequently there will be small chance for the breeding of any stray *Anopheles*.

The possibility of any outbreak of disease of any kind is rendered still more remote by the wise provision which enacts that the work shall be done in sections, each of which shall cover not more than 400 yards, so that each excavated portion can be built in and finished with greater dispatch and less risk to health than if larger areas were opened.

One feature of the question which suggests an important topic is in reference to the constant escape of illuminating gas into the atmosphere. While the amount of this gas which may be found in the air must be small, certain effects are known to follow the constant inhalation of even minute quantities of this gas. Workers about gas factories and foundries, bakers, cooks and laundresses, are known to suffer from the effects of too much carbon-monoxide gas. The most important symptom is a peculiar type of anemia, due to the destructive action of the gas on the red blood-cell. Brouardel has shown that choleraic symptoms are not infrequently observed under similar conditions and peculiar muscular pains are frequently observed.

It seems not unlikely, therefore, that among those living in close proximity to the open cuts of the underground a certain amount of chronic gas-poisoning may be expected.

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The destruction of the beautiful shade-trees along the Western Boulevard is one of the regrettable incidents of the work, but it cannot be said to affect the city's health adversely. Unfortunately the dwellers in the rocky sections must suffer inconvenience from the severe blasting, but as this, according to law, must be done only during certain hours of the day, the nuisance will be considerably minimized. The only persons, therefore, who will be unpleasantly affected are invalids and those suffering from neurasthenia.

In any enterprise of such magnitude, drawbacks of a more or less serious nature are unavoidable, but from present indications the completed work will justify the discomforts incidental to so great an undertaking.

ALFRED RUSSEL WALLACE AND VACCINATION.

WE are in the midst of reviews of the past century's work in all branches and the progress in medicine, because of its universal interest, has come in for even more than its share of laudatory review. As a rule, the opinions expressed on advances in medicine have been worthy of the magnificent development that has taken place.

No better exemplification of the maxim that the shoemaker should not go beyond his last has been furnished for many years, however, than the failure of even scientific minds to understand the significance of certain phases of medical progress. The most glaring example of the failure of a great scientific mind to appreciate a distinct medical advance is afforded by Alfred Russel Wallace's judgment of the value of vaccination.

"The Wonderful Century," the volume in which the sharer with Darwin of the development of the theory of evolution expresses his views as to scientific progress during the past hundred years, was published some time ago, but has taken on a new interest in these last few weeks, because of the oft-quoted chapter "Vaccination a Delusion." Wallace does not mince words in his declaration of opinion. He thinks that he can satisfy his readers of the certain and absolute uselessness of vaccination as a preventive of smallpox. "Vaccination," he declares, "is a gigantic delusion. It has never saved a single life. It has been the cause of so much disease, so many deaths, such a vast amount of utterly needless and altogether undeserved suffering, that it will be classed by the coming generation among the greatest errors of an ignorant and prejudiced age, and its penal enforcement will be considered the foulest blot on the generally beneficent course of legislation during the century."

Needless to say this tirade is only the wild vaporing of a fanatic antivaccinationist. Vaccination has constantly grown in medical favor all over the world during the last twenty-five years. The more thoroughly it has been tried, the more confidence has it elicited in its power to protect. The armies of Europe present the best proof of this. They are ruled by men who would soon do away with the bother of vaccination were it not for the profound and growing conviction that to Jenner's discovery and its universal application are due the modern freedom from smallpox in camp and barracks. The disease was one of the worst and most feared scourges of army life, and is now almost unknown.

Mr. Wallace's surprising declaration can be properly understood only by a knowledge of his views on other matters related to medicine, of which he knows as little and has perhaps even less reason for his opinions than on vaccination. In the same volume, in his essay on "The Neglect of Phrenology," he says: "In the coming century phrenology will assuredly attain general acceptance. It will prove itself to be the true science of mind. Its practical uses in education, in self-discipline, in the reformatory treatment of criminals, and in the remedial treatment of the insane, will give it one of the highest places in the hierarchy of the sciences, and its persistent neglect and obloquy during the last sixty years will be referred to as an example of the almost incredible narrowness and prejudice which prevailed among men of science at the very time they were making such splendid advances in other fields of thought and discovery." Almost as erratic are Mr. Wallace's utterances on hypnotism and psychical research. "Thought transference," he says, "automatic writing, trance-speaking, and clairvoyance have been all demonstrated in the presence of living observers of undoubted ability and knowledge. The still more extraordinary phenomena—veridical hallucinations, warnings, detailed predictions of future events, phantoms, voices or knockings, visible or audible to numerous individuals, bell-ringing, the playing on musical instruments, stone-throwing, and various movements of solid bodies, all without human contact or any discoverable physical cause, still occur among us as they have occurred in all ages. It is absolutely certain that during the coming century they, too, will be accepted as realities by

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all impartial students and by the majority of educated men."

Verily the prophetic picture the great evolutionist draws for us of our state of mind in the century we are just entering is not very attractive. Fortunately there is no guarantee that Mr. Wallace is either a prophet or the son of a prophet. We can then contemplate with more peace of mind than might otherwise be possible the prospective opinions by which the rising generation are to be ruled. Had his views on vaccination been given to a hero-worshiping public by themselves, without the precious antidote of his other opinions, there is in them the possibility of working. His antivaccinationism, taken in connection with the equally aberrant fancies in other fields of thought allied to medicine, only emphasizes the old, old lesson, *sutor ne supra crepidam.*

In our day of scientific specialization no one mind can appreciate the significance of progress in widely separated branches of science. To attempt to do so is to invite inevitable failure and to make oneself absurd. This Mr. Wallace has done very effectually. When Tennyson was uttering some of the senilities that even his greatest admirers found it difficult to bear with equanimity, there was many a heartfelt wish that we could muzzle our poets in their day of senile degenerescence. It would seem from Mr. Wallace's twaddle that a like procedure would be eminently desirable for our men of science also as they grow old. The age-limit of rational opinion would be hard to decide, but the world would be spared so much nonsense that it could afford to lose some sparks of sense that might be missed if a gag-law were enforced after a certain age.

ECHOES AND NEWS.

NEW YORK.

Alumni Association of the College Physicians and Surgeons.—This Association held its annual smoker at Sherry's last Monday evening.

Manhattan Dermatological Society.—This has just been organized with President, Dr. W. S. Gottheil; Vice-President, Dr. L. Weiss; Secretary, Dr. Jacob Sobel.

Grip Cases Break the Record.—The record of last week's deaths from all causes shows a phenomenal increase in the number of those past their seventy-fifth year. At that age an attack of the grip so weakens the system that the patient succumbs. It is to be hoped that the worst is past and that with favorable weather and extra care the disease will gradually die out.

Dr. Leverson Still Advertising.—The Health Board held a meeting last week, but took no action in the case of Dr. Montagu R. Leverson, the Brooklyn physician who has been reported as having said that he had treated many cases of small-pox without reporting them to the authorities. A demand has been made on Dr. Leverson to make affidavit as to whether he has or has not treated small-pox cases without reporting them, and it was said that the Board was awaiting this reply.

Site for Tuberculosis Hospital Approved.—The State Forest Preserve Board approved of the site at Raybrook, between Saranac Lake and Lake Placid, selected by the trustees for the proposed State Tuberculosis Hospital on January 10th. The purchase price agreed upon was $7500, which is $2500 less than the sum which was first asked. The Raybrook site is not near the camp-sites of any individuals and there was no opposition to it. It comprises a little over 521 acres and is about three miles southeast of Saranac village.

Kings County Medical Society.—After a spirited contest the following officers were elected at the annual meeting, Tuesday, January 15th. President, William Browning, M.D.; Vice-President, H. A. Fairbair, M.D.; Secretary, D. Myerle, M.D.; Associate Secretary, W. S. Hubbard, M.D.; Treasurer, O. A. Gordon, M.D.; Associate Treasurer, J. R. Stivers, M.D.; Librarian, J. M. Winfield, M.D.; Censors, W. C. Wood, M.D., J. E. Sheppard, M.D., J. M. Van Cott, M.D., R. J. Morison, M.D., J. P. Warbasse, M.D.

State Board of Health Protest.—The State Board of Health met in Albany January 10th. The Board believes it would not be in the interest of economy, as suggested in the message of Governor Odell, to have the present nine Commissioners replaced by a single-headed commission. After the meeting Dr. Daniel Lewis of New York, President of the Board, Dr. D. W. Smith of Syracuse, Dr. S. Case Jones of Rochester, Attorney General Davies and Owen Cassidy of Montour Falls, members of the Board, together with Dr. Baxter T. Smelzer, its Secretary, called on the Governor and protested against any change, on the ground that it must necessarily cost the State more money.

Work of the Babies' Hospital.—The Babies' Hospital of the City of New York held its annual meeting last evening, and the following officers were re-elected for 1901: President, J. Hooker Hamersley; Vice-President, Oliver G. Jennings; Treasurer of Current Funds, Mrs. John B. Calvert; Treasurer Permanent Fund, Henry R. Kunhardt; Treasurer Building Fund, Felix M. Warburg; Secretary, B. Ogden Chisolm. On the Medical Board for the coming year are: Consulting physicians, Drs. A. Jacobi, F. P. Kinnicut, Pearce Bailey, Thomas E. Satterthwaite, E. B. Bronson; consulting surgeon, Dr. Robert Abbe; attending physicians,

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Drs. L. E. Holt, R. B. Kimball; attending surgeon, Dr. Arthur L. Fisk; consultant, eye and ear, Dr. Wilbur A. Marple.

Elmira Reformatory.—According to the report of the new Board of Managers of the Elmira Reformatory, tuberculosis has increased among the prisoners. The report says that many have the disease when they arrive; others develop it under the trying conditions of prison life, and association with those already affected. The management has become convinced that prisoners healthy upon their arrival become affected, and sometimes with astonishing rapidity, by the disease by being steadily confined in the same cell with a consumptive subject. A case of this kind has come to light, that of a healthy patient, who died within six months after he was confined in the reformatory. The report also says that insanity is on the increase in the institution. "As with tuberculosis," the report says, "no careful medical examination has been made to detect its existence in the entering or departing prisoner, and no minute analysis of the population to eliminate from routine requirements those whose mental conditions rendered their compliance difficult or impossible. Under this system there exists at least one well-attested case of long continued punishment inflicted upon a prisoner mentally irresponsible. That insane persons are frequently sentenced to the Reformatory may excite surprise, but it should be remembered on behalf of the courts that they have no expert means of detecting it and that it is often unsuspected. That this is not always the case, however, is shown by the sentencing of a prisoner to the Reformatory by the Supreme Court sitting in Buffalo in October of this year. The prisoner was examined by two reputable physicians, duly appointed commissioners in lunacy, and adjudged a 'high-grade idiot.'" The report criticises the present "inmate monitor" system and says no good can be brought about by utilizing prisoners to watch over others, and recommends that thirty additional guards be employed. The Board says that much of the damage done to the machinery and the plant in general can be traced to the fact that prisoners were used instead of skilled labor.

Dr. J. Henry Fruitnight.—The following resolutions were adopted at the annual meeting of the Northwestern Medical and Surgical Society:

Whereas, It has pleased Divine Providence to sever by death the membership of Dr. J. Henry Fruitnight in the Northwestern Medical and Surgical Society, a membership lasting nearly a quarter of a century; and,

Whereas, We, the members of this Society, desire to place on record our appreciation of the noble and self-sacrificing character of our late colleague, sadly cut down in the prime of life; therefore be it

Resolved, That in the death of Dr. Fruitnight this Society has lost a modest and congenial companion, a true friend, and a valued professional colleague, whose earnestness of purpose and unselfishness of motive peculiarly fitted him for a large and useful medical career; that he is a severe loss to this Society in which he took a warm personal interest, to the many other medical bodies of which he was a member, and also to the medical profession and the entire community; that his published writings, concise discussions and discriminating thought are worthy of our highest regard;

Resolved, That we sincerely extend our heartfelt sympathy to the members of his bereaved family, wishing for them that consolation which the memory of such a noble life alone can give;

Resolved, That a copy of these resolutions be spread upon the minutes of this Society; that duplicates be sent to the MEDICAL NEWS, the *Medical Record,* the *New York Medical Journal, Archives of Pediatrics* and *Pediatrics,* and that an engrossed copy be prepared for the family of the deceased. A. M. Jacobus, M.D.; Edward S. Peck, M.D.; A E. Bieser, M.D., *Committee.*

The Late Dr. Horace T. Hanks.—At the annual meeting of the Medical Association of the Greater City of New York, held at the New York Academy of Medicine on January 14, 1901, the following report was presented: The Committee appointed by the President, Dr. Weir, at the December meeting of this Association, to prepare a suitable minute in regard to the death of Dr. Horace Tracy Hanks, begs to report as follows:

"It is with sorrow that we are called upon to report the death of Dr. Horace Tracy Hanks, one of the Charter members of our Association. Dr. Hanks died of Bright's disease at his home, in this city, on November 18, 1900. He was born in East Randolph, Vermont, on June 27, 1837. He was graduated from the Albany Medical College in the class of 1861. After serving in the Union Army as acting assistant surgeon for two years, he began the practice of medicine in Royalston, Massachusetts, where he remained, however, for a short time only, removing to New York City. He held many positions of responsibility, among which were the professorship of the diseases of women in the Post-Graduate Medical School and attending surgeon to the Woman's Hospital in the State of New York. He was consulting gynecologist to the Tarrytown, Mount Vernon, and St. Joseph's Hospitals. He was a member of the New York Academy of Medicine, the New York County Medical Society, and of the American Medical Association, and was a Fellow of the American and of the British Gynecological Society. Henry D. Nicoll, M.D.; Clement Cleveland, M.D.; Edward E. Tull, M.D., *Committee.*

PHILADELPHIA.

Resignation of Dr. Cattell.—Dr. Henry W. Cattell has resigned the position of pathologist to the Pennsylvania Hospital.

Wills Eye Hospital.—Dr. John Welsh Cros-

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key has resigned the position of surgeon and has been succeeded by Dr. McCluney Radcliffe.

Philadelphia Medical Club.—At the annual meeting of the Club, held January 11th, Dr. Edward L. Duer was elected president. The vice-presidents are Dr. John B. Deaver and Dr. Philip Marvel, and the secretary, Dr. Guy Hinsdale, and the treasurer, Dr. F. S. Pearce. The membership is now 313, an increase of 69 during the year.

Influenza Epidemic.—Influenza is epidemic in this city at present, the number of cases being estimated at 70,000. The disease is as yet of a mild type, only five deaths being attributed to that cause during the past week. Reports from Pittsburg indicate that while the disease there is also of a mild type, an unusually large percentage of the cases show varying degrees of mental disorder.

A New Course in the University.—Dr. W. G. Spiller, who has recently been appointed demonstrator of neuropathology offers, beginning about February 1st, 1901, to a limited number of students in that institution, and moreover to a limited number of graduates in medicine who desire to avail themselves of an opportunity to become practically familiar with the anatomy of the central and the pathology of the entire nervous system, an elective course in those branches. This course will comprise the preparation by the students of a series of slides from the medulla oblongata, pons, cerebral peduncles, and basal ganglia.

Dr. Osler's Address on Perforation and Perforative Peritonitis in Typhoid Fever.—Dr. William Osler of Baltimore, present by invitation at the meeting of the Philadelphia County Medical Society, January 9th, delivered an address on "Perforation and Perforative Peritonitis in Typhoid Fever." Dr. Osler stated that changes in nursing and treatment have greatly reduced the mortality of typhoid fever, although the profession cannot congratulate itself on having lessened the incidence of the disease. The mortality should not now be greater than 7.5 per cent. in hospital practice. One class of formerly fatal cases, namely, those suffering from severe toxemia, has been greatly influenced by modern non-medicinal treatment. Of every 100 deaths from typhoid fever only 50 are due to asthenia, 30 being caused by perforation, and 20 by other complications. In contrast to the toxemic cases mentioned there has been no material change in the percentage of deaths from perforation. Two clinical features of this complication are to be emphasized, first, its uncertainty and variability, and, second, the necessity for a complete revision of the methods of observing and recording the symptoms. In this connection two conditions are to be differentiated—the perforation itself and the consecutive peritonitis. It is of the greatest importance to recognize perforation and to operate within twelve hours. Dr. Osler gave in detail the notes of three cases, each one being representative of a type. The first was operated upon nine hours after perforation and died on the third day. The wound in the bowel had almost healed and the patient had undoubtedly died from typhoid fever itself and not from peritonitis following perforation. In a second case operation revealed two perforations, fecal matter in the pelvis, and the gut in such a necrosed condition that it would not hold sutures. The patient died on the table. This belonged to a class of cases in which fatality is inevitable. The third case was operated upon seven and one-half hours after perforation and made an uneventful recovery, illustrating a class in which operation saves life. A careful study of symptoms has shown that the time-honored ones of sweating, Hippocratic facies, feeble-running pulse, collapse, etc., belong not to perforation but to peritonitis. A fuller knowledge of the symptoms of perforation is needed. Dr. Osler does not believe that much good will result from investigating the so-called preperforative stage, but it is the duty of physicians to study carefully the earliest signs of perforation. A study of the hospital notes of cases will convince anyone of their insufficiency. Every serious case of typhoid fever should be watched by a careful physician who is in constant touch with a surgical colleague. It is better that the patient be watched by a skilled resident physician than to trust to the occasional visits of an attending physician.

Dr. Osler gives specific instructions regarding certain points to be noted by the attendants of a severe case. (1) The night nurse or superintendent is to at once notify the physician of the onset of pain, hiccough, vomiting, increase of pulse or respiration, sweating, or collapse. (2) The character of the pain is to be noted (*a*) as to its onset, whether an aggravation of previous pain or a sudden pain recurring in paroxysms; (*b*) as to its locality, whether diffuse or local, in the iliac fossa or hypogastric region, if it radiates—especially to the penis. (3) State the condition of the abdomen as learned by (*a*) inspection—whether flat, scaphoid, or distended. If the latter, is it uniform or in certain regions. Note respiratory movements; (*b*) palpation—note tenderness, muscle rigidity or spasm; (*c*) percussion—note the condition of the flanks and the extent of liver dulness. The latter should be mapped out every three hours, as it may be obliterated in a flat as well as in a distended abdomen; (*d*) auscultation—note degree of peristalsis and the occurrence of friction sounds; examine the rectum and stools. (4) Observe the general condition of the patient as evidenced by change in expression, pallor, pulse, temperature, respiration, sweating, vomiting, hiccough. (5) Examine the blood. Note if leucocytosis is present, and if so whether stationary or rising. The leucopenia of typhoid fever must not be forgotten in this connection.

An important preliminary to the further reduction of the mortality from typhoid fever is the practical firsthand instruction of senior medical students. This does not mean lectures or recitations, but actually seeing cases and watching their

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progress. Dr. Osler referred to the mistakes in diagnosis made by the army surgeons during the Spanish-American war as evidence of the lack of knowledge of typhoid fever, not more than 50 per cent. of the cases being diagnosed as such before they were sent to hospitals. By carefully watching for symptoms of perforation, in severe cases and operating at the earliest possible moment it is probably possible to save one-half of them. Eleven cases of perforation occurring in the wards of the Johns Hopkins Hospital have been operated upon with five recoveries. Out of five additional cases operated upon at once after admission there was one recovery.

CHICAGO.

Bequest to Presbyterian Hospital.—According to the will of Mrs. Aurelia B. King, widow of Henry W. King, which was recently filed in the Probate Court, the Presbyterian Hospital of Chicago receives $1000.

Will of Mr. H. W. Jackson.—According to the will of the late Mr. Jackson, which was recently filed in the Probate Court, the Presbyterian Hospital, the St. Luke's Hospital, and the Chicago Hospital for Women and Children will receive $1,000 each.

Medical Society of Rush Medical College.—Recently a Society was organized by the Faculty of this College. Dr. James B. Herrick was elected secretary. The presiding officer will be selected at each meeting. Those composing the Executive Committee are Drs. Frank Billings, Ludwig Hektoen. I. Clarence Webster, L. F. Barker, and Dr. Herrick. The meeting will be held monthly.

Lodging-Houses.—Of the 815 lodging-houses in this city, all of them are conforming to the health laws, according to the annual report submitted by the chief sanitary inspector. It is recommended to the State Board of Health that a room be set aside in each lodging-house where cases of infectious disease can be quarantined temporarily. During the nine months from April 1st to December 31, 1900, 90 suits were brought against owners of houses for violations of the health laws.

Chicago Ophthalmological and Otological Society.—At a meeting, held January 8th, 1901, the election of officers for this year resulted as follows: President, Dr. Casey A. Wood; Vice-President, Dr. William H. Wilder; Secretary-Treasurer, Dr. C. P. Pinckard; Committee on Membership, Drs. William H. Wilder, C. D. Wescott, and Lyman Ware. Dr. Pinckard presented a brief history of the Society from the time of its organization to the present. Dr. A. E. Bulsom, Jr., of Fort Wayne, Ind., read a paper on gonorrheal ophthalmia, with complications, in which he reported several interesting cases.

Garbage Disposal.—The question of how Chicago shall dispose of its hundreds of tons of garbage gathered daily will soon come up for consideration and will come before the Council for action when the municipal cleanliness ordinance is reported back from the Judiciary Committee with its recommendations. As to garbage, there is only one thing to be done. The city must stop the present disgraceful, wasteful way of disposing of its refuse by carting it to pits or dumping-grounds. Such a way of getting rid of the daily *débris* of a great city is discreditable to intelligence and an offense and menace to public health and decency, to say nothing of esthetic considerations.

Enterostomy in Acute Intestinal Obstruction.—In a paper on this subject, read before the Chicago Medical Society, January 9th, Dr. E. J. Senn emphasized the following points (1) The value of temporary enterostomy in acute intestinal obstruction in selected cases, especially when facilities are not favorable for a laparotomy, and when the patient's condition does not warrant such an operation. (2) Enterostomy is a simple operation, requiring ordinary skill, while laparotomy with radical treatment of the obstruction is very critical. (3) The opening in the intestine should not exceed one-half inch in length, parallel with the axis of the bowel, thereby readily closing after its purpose has been fulfilled. If the obstruction persists after enterostomy, a radical operation can be performed at a later date, when the symptoms have passed away.

Indicanuria and Oxaluria and Gastro-Intestinal Fermentation.—Dr. John A. Wesener read a paper on this subject at the same meeting in which he drew the following conclusions: (1) Traces of oxalates are found normally in the urine, taken in with the food. (2) Oxalate crystals usually denote gastro-intestinal fermentation. Food rich in same must be excluded. (3) Abundance of oxalate crystals does not signify a high percentage of oxalic acid. (4) Indican is usually associated with oxalate crystals. (5) The symptoms of oxalic-acid diathesis, associated with indicanuria, are not due to the oxalic acid nor to the indol, but to other products formed in the process of fermentation. (6) In certain disturbances of the gastro-intestinal tract due to excess of hydrochloric acid, or to excess of fatty acids, indican and oxalic acid are increased. (7) Hyperacidity on a meat diet produces putrefaction.

Medical Inspection of Schools.—Fifty medical examiners, who have been off duty a month, were sent out to the public schools to-day by order of President Harris of the Board of Education. Bulletins were hastily posted to the principals of the city schools notifying them that inspection had been resumed and that they would be expected to furnish lists each day of pupils who have been absent four days on account of sickness. The lists are to be placed in the hands of the truant officers, who will make immediate investigation of the cases and report to the medical inspectors. The action was taken on the advice of Commissioner of Health Reynolds, who asked for assistance from the Board of Education in averting an epidemic of contagious diseases. The prevalence

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of influenza and the fear of small-pox led the Department of Public Health to notify the Board that strenuous efforts are necessary to prevent spread of disease. A schedule has been arranged by which emergency calls may be answered at half an hour's notice, and principals have been notified to report at once any cases in which there is a suspicion of contagious disease. It is expected that a general vaccination of school-children will be ordered, and principals and medical examiners have been instructed to give the city examiners all the assistance in their power.

Joint Meeting of Physicians and Pharmacists.—At a recent joint meeting of physicians and druggists of this State, the following report was submitted and adopted: Pharmacists and those in their employ should positively refuse to prescribe for customers except in cases of urgent emergency. Any person shall be regarded as practising medicine who shall treat or profess to treat or prescribe for any physical ailment or any physical injury to or deformity of another. The law gives to pharmacists no right or authority to diagnose diseases and prescribe medicine therefor, which privilege belongs alone to physicians. Physicians should carry with them or supply to patients emergency remedies only. The substitution of one article for another or one make of an article for another in a physician's prescription, without the physician's consent, is condemned as a most reprehensible practice. Whenever a physician, for any reason, objects to the refilling or copying of his prescription, he should plainly indicate his wishes on the prescription. Pharmacists should refuse to refill a prescription or give copies of them when so instructed by the prescriber. Copies should not be placed upon containers unless ordered to be placed thereon by the prescriber. Physicians prescribing poisonous substances should add such directions as will indicate the use for which they are intended. When unusual doses are prescribed, pains should be taken to indicate to the pharmacist that the quantity prescribed is understood. In case of a suspected error or substitution by a pharmacist in the compounding of prescriptions, physicians should always satisfy themselves by conferring with the pharmacist, as to the true state of affairs, and in no case should the pharmacist be condemned by the physician, or the physician by the pharmacist, either to the patient and family, or in the press without previous careful investigation. Whenever there is a doubt in the mind of the pharmacist as to the correctness of the physician's prescription or directions, he should invariably confer with the physician in order to avoid possible mistakes or unpleasantness, and should not attempt to make any changes without such conferences. Pharmacists should never discuss physicians' prescriptions with customers, nor disclose the composition thereof to them.

GENERAL.

Carmichael Prize of the Royal College of Surgeons, Ireland.—This prize, valued at $600, has just been awarded to Mr. H. Nelson Hardy, F.R.C.S., for an essay dealing with the state of physic, surgery and pharmacy in the United Kingdom. (*Brit. Med. Jour.*)

Physician's Gift to a Hospital.—Dr. William W. Lesley, who died in Philadelphia recently, bequeathed $11,000 to the Delaware Hospital in Wilmington for the support of two free beds.

Jersey Towns Scourged.—Southern New Jersey, especially that section comprising the counties of Atlantic, Cumberland and Cape May, is reported as being ravaged by epidemics of scarlet fever and diphtheria.

Compulsory Vaccination in Kansas City.—Physicians, carrying on the crusade of compulsory vaccination begun recently, January 10th started a house-to-house canvass, vaccinating every one who could not display a good scar.

Yellow Fever.—The American Commission, under the superintendence of Dr. Reed, which has been making experiments at Quemados as to the propagation of the yellow-fever germs by the mosquito, say that they have obtained extremely satisfactory results. Dr. Reed says the experiments show that there is no contagion from an infected person or from infected clothing, but that the mosquitoes alone are responsible for the spread of the disease. Confirmation from other sources is needed, however, to establish this truth.

A Western Medical Organization.—A Pacific medical association is about to be organized. The plan is to have San Francisco the center of a Western medical field, embracing Washington, Oregon, Idaho, Montana, Utah, Nevada, Arizona, California, Alaska, British Columbia, the Hawaiian Islands, the Philippine archipelago, and other islands of the Pacific, the western part of Mexico and of the Central American republics, and possibly the empire of Japan. A preliminary meeting of the most prominent physicians interested in this movement will be held in this city on Saturday evening.

Small-Pox in Galveston.—The small-pox situation in Galveston is alarming, and Dr. Wilkinson, City Health Physician, says he cannot find words strong enough to urge the people of Galveston to be vaccinated. There are at present in the detention camp about twenty patients, three new cases being recently sent there. In the city there are about a dozen well-developed cases that are isolated and guarded. Dr. Wilkinson says the disease was brought to Galveston by the influx of a large number of country negroes who were drawn here by the prospect of earning high wages.

Adulterated Foods in America.—Adulteration of food with chemicals has never been more largely practised and was never more dangerous to the American public than at the present time, according to Prof. H. W. Wiley, chief chemist of the Department of Agriculture, whose paper on "The Legal and Medical Aspect of Food Adulteration," opened a discussion on that subject at a meeting of the Society of Medical Jurisprudence held recently.

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Obituary.—Dr. Henry Foster, founder of the sanitarium at Clifton Springs, N. Y., died suddenly January 15th of heart disease. He was in his eightieth year.

Dr. Lucius J. W. Lee died on Tuesday at his home, 655 Quincy Street, Brooklyn, in his sixty-fifth year. He was attached to the Douglas Hospital in Washington, D. C., during the Civil War. He leaves a widow and an adopted daughter.

Dr. Thomas Brown Wheeler, a physician of Montreal, died suddenly in the Murray Hill Hotel last week of apoplexy.

Woman's Hospital.—Dr. P. F. Chambers has been appointed attending surgeon *vice* Dr. Thomas Addis Emmet, resigned.

CORRESPONDENCE.

CRUSADE AGAINST UNLICENSED PRACTITIONERS.

To the Editor of the MEDICAL NEWS:

DEAR SIR: The medical laws of the State of New York provide that, before one can practice medicine, a certificate of proficiency shall be obtained from the Regents of the University of the State, which is given only after a satisfactory examination. The purpose of this law is to protect the people from incompetent practitioners of medicine, and, in so far as the medical profession is concerned, this purpose is accomplished.

There are, however, many irregular practitioners who practice in open defiance of this law, apparently without molestation. This is an incentive to irregular methods, and can only be to the disadvantage of the community at large.

It is the purpose of the Medical Society of the County of New York to begin an active crusade against these unlicensed, and therefore illegal and incompetent practitioners, and we ask the cooperation of the profession and the public generally.

Any information concerning unlicensed practitioners will be gratefully received by the Board of Censors and the counsel of the Society, and will be considered confidential when requested.

Communications can be addressed to the members of the Board of Censors or to the counsel.

FRANK VAN FLEET, M.D., *Chairman*,
63 East 79th Street.

HENRY S. STEARNS, M.D., *Secretary*,
45 West 58th Street.

New York, January 10, 1901.

SUPRARENAL CAPSULE IN ORGANIC HEART-DISEASE.

To the Editor of the MEDICAL NEWS:

DEAR SIR: I intend to publish a second paper on the use of the suprarenal capsule in organic heart-disease. Will you kindly ask the readers of your journal to send me the reports of their cases as follows: (1) The condition of the heart and pulse and pulse-rate. (2) The effect on the heart and pulse and pulse-rate within ten minutes after the suprarenal powder, three grains, is chewed and swallowed without water, by the patient.

SAMUEL FLOERSHEIM, M.D.

New York, January 15, 1901.

OUR LONDON LETTER.

[From Our London Correspondent.]

LONDON, January 5, 1901.

DECLINE OF THE OUTBREAK OF ARSENICAL NEURITIS FROM BEER-DRINKING—LORD LISTER'S ADDRESS TO THE ROYAL SOCIETY ON THE PATHOLOGY OF MALARIA—THE PREVENTION OF MALARIA IN LAGOS—AN ANTIMOSQUITO GOVERNOR.

As might have been expected the discovery that the outbreak of peripheral neuritis in Manchester and the surrounding district was due to drinking beer contaminated with arsenic has been rapidly followed by diminution of the number of cases. One result of the scare produced by the outbreak is that the numerous analyses of beer have brought to light the curious fact that arsenic may be found in samples prepared entirely from malt and not from the brewing sugars to which the peripheral neuritis has been traced, but in such beer arsenic is present in much too minute a quantity to be noxious. The arsenic has been found in the malt. It is supposed to be due to the coal used in kilning and drying, which contains an infinitesimal amount of arsenic. A number of inquests have been held and the juries have returned verdicts of death from arsenical poisoning.

Lord Lister's address to the Royal Society on the pathology of malaria which he delivered on the occasion of retiring from the presidential chair was a remarkable production in more senses than one. First, as a lucid exposition of what is now something more than the mosquito-theory—a wonderful discovery of vast importance to the human race—nothing could have been better. Second, that a man who has now reached advanced years, whose life-work has long ago been done, should show complete mastery of one of the latest and most intricate problems of pathology and one having no connection whatever with his own work, was astonishing.

The deadly colony of Lagos now boasts of an antimosquito governor. Malaria is the most critical matter in the white man's life there. Every government official after twelve months' duty has to have six months' leave of absence in England to recuperate, that is, if he is still alive, for none escape the scourge. Whilst on duty he is on an average laid aside for three months. Thus in every eighteen months he does nine months' work, the remaining nine being taken up in illness and convalescence. According to the governor, Sir William Macgregor, who is both a scientist and a medical man, Lagos "was designed by Nature as an ideal breeding-ground for the mosquito and has been extensively improved for this purpose by man." As the native malarial patient will supply the mosquito with

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unlimited germs, to stamp out the disease seems impossible, but he hopes to minimize it. First, he will personally inspect every town and village on the whole length of the railway line. Wherever he finds a place where the mosquitoes can breed—depressions in the ground where the rain can form pools, unprotected cisterns, uncovered rain-water pipes, water-butts without lids, etc., he will in each case give specific instructions how it is to be dealt with. At the end of a given time he will make a second visit to see that his instructions have been carried out. To keep the mosquitoes out of houses, Sir William is getting an expert chemist to prepare a form of fumigating cone from chrysanthemum seed, the smoke of which stupefies mosquitoes. At present the seed is grown in Hungary and pastilles are manufactured from it in Italy. The governor intends to grow it on the spot. The pastilles will be sold almost at cost price to the natives. Then Sir William is taking out with him a master carpenter, a master tinsmith and a large supply of wire-gauze. He will provide every white official with at least one mosquito-proof room for use after dark. He will also institute a number of mosquito-proof wards in the infirmaries. At the same time natives will be apprenticed to the carpenter and the tinsmith and will learn how to make and fit mosquito doors and shutters and how to make wire-gauze. All the medical men in the colony will lecture on mosquitoes and malaria to the school-teachers, who in their turn will instruct the natives in the ordinary school curriculum.

TRANSACTIONS OF FOREIGN SOCIETIES.

French.

INFECTIOUS ANGIOCHOLITIS — PRIMARY TRACHEAL SUTURE—ARTHROTOMY FOR OLD LUXATION—FRACTURES OF THE LOWER JAW—RESECTION OF THE ELBOW—RESECTION OF THE HIP—RESULTS OF LORENZ'S REDUCTION OF CONGENITAL DISLOCATION OF THE HIP—SERUMTHERAPY AND TUMORS—MASSOTHERAPY IN PHLEBITIS—MULTIPLE PUERPERAL PHLEBITIS AND MORTAL INFECTION—PREPHLEBITIC, PHLEBITIC AND POSTPHLEBITIC PUERPERAL SYMPTOMS—PALPEBRAL EDEMA—APHASIA AFTER TYPHOID FEVER—PRIMITIVE PROGRESSIVE MYOPATHY.

MICHAUX, at the Société de Chirurgie de Paris, November 21st, 1900, gave account of a case of angiocholitis under the care of Pauchet (Amiens). The onset was subacute and accompanied cirrhosis. January 25th last a cholecystostomy was performed and cure followed without incident. Seven months later at the request of the patient a cholecystectomy was performed after the subserous method of Doyen. To Michaux the presence of a cirrhosis did not seem to be established by all the conditions in the operator's report. Since in three bacteriological examinations the bacillus coli communis was formed each time, he thought that the case was an ordinary infectious angiocholitis of mild degree. Nevertheless the patient received very great benefit from the operation. The bacilli in the bile discharged through the fistula decreased and finally disappeared. It was at this time that Pauchet did the secondary operation. It would have been better judgment to have permitted the sinus to close itself. Michaux has had in his own experience a thirty-four-year-old man who gave symptoms of infectious angiocholitis with jaundice. Exploratory laparotomy revealed considerable enlargement of the liver and lymphatic glands. The diagnosis was confirmed and a kind of massage carried out on the bladder and ducts. This, without cholecystotomy, completely cured the patient. Segond, Routeer and Quénu have had similar cases. In the presence of a true hypertrophic cirrhosis he had seen marked benefit follow a cholecystotomy, but only up to a certain point. The patient had very recently reported that he still suffers, though improved. When there is infectious angiocholitis, he rejects an anastomosis between the gall-bladder and the intestines, but regards a fistula opening upon the skin as preferable. Hartmann regarded the cholecystostomy in the case of Pauchet as unnecessary, because in the absence of jaundice, probably no obstruction to the bile-flow was present. Therefore, such cases get well after simple exploration, owing no doubt to the rest in bed and the post-operative diet and regimen.

ROUTIER, alluding to his case mentioned by Michaux, said the woman gave all the signs of obstruction of the common bile-duct, was treated solely by massage of the passages which probably dislodged a mass of mucus and established the free flow of bile into the intestine and cure.

LEJARS at the sitting of December 5th continued the subject by reporting a case with all the symptoms of biliary calculi with jaundice. No stones were found on exploration, but a cholecystostomy was done. The exposed liver had many appearances of cirrhosis, which were diminished or absent when the fistula was closed at a secondary operation. Michaux added that for clinical purposes it would be well to know the subsequent history of these cases of infectious angiocholitis in order to determine the character of the liver lesion. Quénu stated that he had followed many of his patients long and closely enough to be certain of their permanent cure. In one patient the lesion was a perihepatitis complicating a large cirrhosis. Nine years afterward the general condition of the patient was very satisfactory, although the size of the liver had not decreased.

PICQUE, at the meeting of November 21st, reported for Mesnard a recovery after wound and primary suture of the trachea. The man had attempted suicide and with a razor had made a ragged cut through several of the rings. With catgut a kind of trellis was made, apposing the edges of the tracheal wound. The method succeeded admirably.

NELATON, December 5th, contributed two cases of arthrotomy of the shoulder for old dislocation. Although the procedure was carried out under favorable conditions and the healing was satisfactory, the functional outcome was far from good. This corresponds with the report of Ricard at a previous

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meeting of one case and with the experience of most authors in literature. On the other hand, Nélaton has treated twelve or more such old cases without the opening of the joint and the function was finally very excellent.

DELBET said that during the summer a patient in whom no lasting reduction of a shoulder dislocation could be done, demanded and was refused by him open restoration of the joint. Another operator consented, but finally had to resect the head in the interests of function. Ricard noted that since his previous report his patient had much improved, therefore he felt the operation should not be entirely abandoned.

MARTIN, at the Société de Chirurgie de Lyon, July 12th, referred to his treatise of 1887 on fractures of the lower jaw and the apparatus he then described for treating them, and emphasized the advantages of managing these cases with the mouth open. He now abandons all external splints except a molded rubber one. The posterior fragment is the one which gives difficulty by being hard to depress and reduce. The shorter this fragment is the greater its tendency to displacement. When the jaw is open the posterior part naturally is depressed and when fractured a very good reduction of the fragments is almost spontaneous. Retention in this position is then alone needed, for instance, with a wedge of wood or of some other material, which acting like a splint fixes the rear fragment while the front one is apposed carefully to it and held in position by the rubber external molded splint, which is best arranged to include the chin too. It is necessary to wear this combination until the first steps of union are accomplished. As a rule, the alignment of the fragments is most excellent. Massage may then be gently applied. Results are in proportion to the care of the primary reduction. The method has been continuously employed by the author for the past ten years, and always with satisfaction and success, in about forty cases. The method has the disadvantage of trying the patient a great deal and cannot therefore be used unless the disposition will tolerate it. When there is comminution of the bone, some form of internal splint must be applied to prevent deformity.

OLLIER exhibited a patient in whom gonorrheal synovitis had produced ankylosis of the elbow. The first treatment was forcible breaking-up of the adhesions, the prognosis of which was stated as doubtful in advance. At its ultimate failure, the patient demanded radical cure. The joint was freely opened and with the scissors attempt was made to divide all the hindering bands. Their extent made resection necessary, which, after free laying open of the soft parts, was done until free movements were obtained. Recovery was prompt and the result excellent, perfect flexion, a little hyperextension which will probably correct itself, and some lateral mobility which as the soft parts unite more with the condyles will tend to disappear. The final result will probably be very flattering. The point emphasized is wide exposure of the joint by freeing the soft parts all around the joint. Ollier also presented a case of resection of the hip, in which choice had been between that and a cuneiform cervical section, for coxalgia and ankylosis with pain. The former was desided upon as well, as there was still an area of inflammation. At first the neck was sawn through, and then the head was removed. A most excellent result ensued, with perfect ankylosis. Ordinarily mere division of the neck or the cuneiform section would have been the choice, but the element of pain rendered resection advisable.

NORE-JOSSERAND, at the next meeting, showed a specimen from a little girl, four and a half years old, treated for congenital dislocation of the hip by the reduction of Lorenz. Death occurred during an attack of diphtheria. The muscles of the dissection were all normal as to color, consistency, nutrition and direction, being only a little the less heavy on the diseased side. The diaphysis of the femur was somewhat thin, the neck short and the head overdeveloped. The condyloid cavity was too shallow, but withal accommodated the head very well. The capsule was practically normal, even in its auxiliary ligaments. As a whole the joint had the appearance of being somewhat compressed, but was a very good articulation, except for the absence of the round ligament.

LE DENTU, at the Académie de Médicine, November 27th, reiterated the conservative findings recently enunciated by Lucas-Championnière and Berger during the last session as to the anticellular serumtherapy of Wlaïew in the treatment of malign tumors. Up to the present this method has given in the hands of surgeons at the best only uncertain results. Therein it is comparable to the serum from the streptococci of erysipelas, either free or mixed with that of the micrococcus prodigiosus, also the serum of animals inoculated with the juice and with the pulp of such tumors. The limited, though real efficacy of such inoculation seems to depend upon some temporary effect upon the elements occurring in common among all tumors as widely different as the sarcomata and the epitheliomata. Such common elements are, of course, at the present time not definitely differentiated. Or, again, such elements might be accessory and hence, though really and deeply affected, have no influence upon the essence of the tumor and therefore no cure results. It is likely that the best method of treating these malign invaders is by early wide extirpation. The earlier the diagnosis and the excision the better the result. Although absolute cure may not be obtainable, the general condition of the patient is benefited and alleviation is gained.

HIRTZ, at the Société Médicale des Hopitaux, November 23d, said that he differs somewhat from Vaquez who at the last meeting stated that he employs massage in phlebitis about twenty days after the onset, provided all the palpable veins have ceased to be tender, all pyrexia has vanished and all edema is frankly disappearing. For his own patients he prefers to wait longer, say at least four or five weeks after the onset, and in the presence of the same favoring factors. In many cases of rheumatic, goutly and varicose phlebitis he delays active interference still longer.

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QUELMÈ (Faou) presented notes on a case of postpartum phlebitis in a multipara, appearing nine days after delivery, affecting at the onset only the two lower extremities, later extending to both upper extremities, and having pulmonary embolism with a pneumonia. In succession both eyelids became edematous, perhaps by thrombosis of the ophthalmic veins. High fever interrupted by chills persisted. Later weakness of the heart, dryness of the tongue, cerebral manifestations, and, as a final development, a purulent pemphigus of the lower extremities. Anuria, without albuminuria preceding it, appeared just before death.

STAPFER offered the account of a puerperal case in which for five days after delivery a subfebrile state persisted; after ten or twelve days of apyrexia a phlebitis of one lower extremity appeared with some fever. Soon the other lower, later one of the upper members became affected without edema. After fifteen days of this fever, the temperature suddenly rose to 41° C. and attacks of intense cephalalgia, with pain and spasms in the muscles, appeared. Warm baths relieved the condition and after about two weeks cure was established.

GAILLARD, at the meeting of November 30th, narrated the histories of two cases of acute idiopathic palpebral edema in children with arthritic antecedents. The first concerned a female four and one-half years old, who, while at the seashore, was overtaken with edema of one eyelid without any lesion of the eyeball or injection of the conjunctiva. It attained large proportions, persisted twenty-four to thirty-six hours, disappeared entirely and recurred after six weeks. There were in all eight relapses, first on the right, then on the left side. The second patient, also female, three and one-half years old, was after an attack of rheumatism left with a hydrarthrosis of the right knee, without fever. Five days later she had a papillary erythema of both lower extremities; on the morning of the seventh day the lids of the right eye were closed by an enormous edema, which also affected the left eye to a less degree. There was no conjunctivitis and no fever. In two days all this edema disappeared, but there remained purpura in the buttocks and bases of the thighs. Twelve days after their appearance all these signs had disappeared.

BARIE said that in at least one of these patients there was an eruption localized in the lids accompanying the erythema papulosa, attributable no doubt to digestive disturbances. Recently he had a patient who presented much swelling of the face during convalescence from a polymorphic erythema. Beside a rubeolic eruption of the forearms and scarlatiniform of the back and trunk, the patient had urticaria on the trunk and face. Notwithstanding the great variety of these cutaneous lesions, they were all probably due to an intestinal intoxication of some obscure type.

DU CASTEL said that simple localized urticaria would explain the characters of the phenomenon very well and had in support of it the fact that in one individual the disease began at the seashore.

SIREDEY showed a youth recovered from a severe attack of typhoid fever with disturbances of speech and motion as sequelæ. The motor lesions affected the lower extremities, especially the left, were accompanied by increased patellar reflexes and the toe affections of Babinski. The speech was of the scanning type so often seen in multiple sclerosis. Although intention tremors and nystagmus were absent, the author felt that this was probably the patient's disease. Hysteria was certainly not present.

BARBIER reported an observation of a girl eleven years, the subject of a primitive progressive myopathy, apparently originated in her infancy in the lower extremities; later the upper extremities, the trunk and the face became involved. There was a real generalized atrophy, but more or less pronounced according to the region. The buttocks and the gastrocnemii were with a few others really increased in volume. Notwithstanding their enlargement they were manifestly feeble. The gait was waddling, with the feet wide apart. She had very great difficulty in assuming the erect from the sitting or the recumbent position. The hereditary taint was direct, as a sister and a first cousin also had the disease.

SOCIETY PROCEEDINGS.

THE SOCIETY OF THE ALUMNI OF THE CITY (CHARITY) HOSPITAL.

Stated Meeting, Held October 10, 1900.

The President, W. L. Baner, M.D., in the Chair.

Acquired Heart-Disease in a Child Three Years Old.—This paper was read by Dr. Francis E. Butler. The case is interesting from the fact that it is one of acquired heart-disease with very extensive lesions. Such an extensive cardiac involvement at this early age is due, as a rule, to some congenital defect in the heart, either in the septum or pulmonic valves. When the condition was first manifest the boy was three years and six months old. How long before this the lesion began, and whether it was a rapid involvement or an insidious condition so common in children, was not definite. There was apparently no joint lesions. The family history is as follows: His mother had an attack of articular rheumatism while she was nursing him. His father had a brother who suffered from rheumatism. He has one sister and two brothers in good health, who gave no history or symptoms of rheumatism. One sister died of meningitis several years ago. He was nursed for a year and then fed on anything. Was a strong healthy child up to about a year ago, when he was admitted to the Hospital for Ruptured and Crippled for operation on bow legs. Osteotomy was done. He contracted whooping-cough in the hospital and was sent home. Soon after measles developed. He recovered from the measles and whooping-cough and soon regained strength. He was apparently well

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for about four months. In June, 1900, the mother and brother noticed that on the slightest exertion he became short of breath, had great difficulty in breathing; he was pale and anemic, not eating much, very irritable, and could not sleep at night. Apparently there had been no history of pain, either in the joints or extremities. He was taken to the Outdoor Department of the Hospital for Ruptured and Crippled and the mother was told that the child had rheumatism. She then took him to the French Hospital; not improving there, he was brought to the Outdoor Department of St. Vincent's Hospital on July 28th, at which time the following points were learned.

Up to about nine weeks ago the child had been in perfect health, when he began to have great difficulty in breathing, lost weight rapidly, became pale, listless, irritable; when he walked or played a little he became short of breath, sighed and grunted, put his hand over precardial region, looked anxious and distressed. An examination at that time showed the pulse 144, respiration 70 and labored. He had a strong heaving pulsation all over the cardiac region. There was marked epigastric pulsation. The apex beat was forcible in the fifth intercostal space, almost under the sixth rib, about one inch outside the left nipple line. There was a distinct thrill and fremitus about the apex of the heart and ensiform cartilage. On ausculation, there was a loud, harsh, blowing murmur, apparently systolic and diastolic, strongest at the apex and transmitted to axilla and back, in fact, it was heard all over the chest, obscuring all other sounds of the heart except the pulmonic second sound in the second intercostal space, which was markedly accentuated. There were a few râles in the chest and a frequent, irritating cough. His liver was enlarged about three-quarters of an inch below the free border of the ribs. He was sent home, kept in bed as quiet as possible and fed on eggs and milk, meats and liquid peptonoids, about a dram every three hours.

On August 4th he was brought to the Dispensary. His brother said he complained of pain in the cardiac region, frequently put both hands over the cardiac area. There were a few pleuropericardial friction sounds. The heart condition seemed about the same at that time. He was given Fowler's solution (℥ iij, t. i. d.) and liquid peptonoids. About two weeks after that he reported at the Dispensary again and was doing much better; he did not complain of pain, dyspnea was not so marked; he ate better, the heart sounds seemed about the same and cough was less. On September 1st the general condition was much improved. He was able to play about and walk easily and breathe fairly well. He was given Fowler's solution (℥ v. t. i. d.) and liquid peptonoids; pulse 120, respiration 40. In two weeks he was much improved, could walk down three flights of stairs, but would not try to walk up, insisted upon being carried. He had lost the anxious expression of face.

He has been doing pretty well up to the present time, not so well last week, probably due to the damp, heavy weather, which seemed to depress him. He had a great deal of difficulty in breathing: his dyspnea seemed more marked. He has a very loose cough. The heart sounds seem much improved, more localized at the apex, and the sounds of the aortic valves can be heard distinctly; the murmur is still heard over the whole chest; pulsation and heaving of precardium less forcible; apex beat still outside the nipple line in the fifth space; pulse 128, respiration 40.

Dr. William L. Stowell said that he had a case somewhat similar in a child four years old, with acute articular rheumatism and endocarditis. As to the treatment of these cases, cardiac stimulants had very little effect. Nearly all the benefit was gotten by tonic treatment. He had seen cases in which the condition was acquired. Children often outgrow these diseases. If the lesions were not marked, degeneration did not take place readily in the child. They outgrew a great many physical defects that an adult could not get over. In the case presented the regurgitation was considerable, and it would be remarkable if it should improve much; but where the lesion was less extensive and there was less dilatation, there was a good chance of their living to an average age. There were multitudes of people living who had had heart disease for many years. The earlier these cases were detected and the more successfully the patients could be nourished as they grew up, the more certainty of their overcoming the disease.

Dr. Walter L. Carr said this was one of the cases that were always of great interest. The condition of the heart was one that made the origin of the trouble doubtful. Many of these children with valvular disease have had rheumatism, and of that type which so often occurs in childhood, where there was no evidence of acute pain, frequently no symptoms of any joint trouble. There might be a family history, a little uncertainty as to so-called growing pains, or often no history at all. In this particular case there was some doubt as to the origin, in connection with the fact that the child had had pertussis and measles. There may have been symptoms of endocarditis at that time, as pertussis and measles are sometimes followed by myocarditis or endocarditis. It was hard to say much about the condition of the heart, that is, its actual strength. Very often there was degeneration of the heart-muscle, then again the child would get over such a condition; and while the prognosis was grave, such cases did recuperate, and with careful watching passed beyond puberty, to a comparatively old age. Sometimes we were skeptical about the recovery of these cases, where there was no evidence of it, no great hypertrophy, nor sign of interference with the circulation. The difficulty was to treat these cases properly, to allow the heart-muscle to regain its strength and for the general circulation to be carried on properly. These patients need rest, but if they were dispensary cases, medicine was often given, and

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sometimes medicines which they did not need. Very frequently it was digitalis, which a great many children were better without. More frequently they needed something to act on the liver or to relieve the general systemic circulation. In private practice in such a case the child should be kept quiet in bed; then directions about having the bowels regular and the care of the digestion, so that the stomach and intestines were not distended after eating, should be given; so that the diaphragm would not be pushed up, the heart displaced, and the circulation made uneven from mechanical conditions. If the heart-action was weak, digitalis might be used; but more cases would be better without digitalis than with it. The heart-action would fall ten, fifteen and twenty beats if the child were kept quiet. Symptomatic medicines were often called for to relieve pain, stimulating cough mixtures for the bronchial membrane, and preparations of alcohol for a general tonic effect; but it was not thought that any child would do well with the indiscriminate use of alcohol, any more than the indiscriminate use of digitalis. One mistake was often made, naturally, that if the murmur was loud, the child was kept under treatment; but if it was a soft murmur, not well heard, the physician often thought the child was doing well. The low-pitched, soft murmur was sometimes due to the change in the heart-wall, and the child might then need the very digitalis and alcohol which were being discontinued. The kidneys should be carefully watched. The urine was sometimes albuminous, and at times showed casts. The whole matter of the care of these cases was primarily that of rest, which would, more than anything else, lessen the degeneration of the heart-muscle; and by slowing the heart-action certainly give it a chance to regain strength.

Dr. Adolph Rupp said he wished to ask only a few questions. Why call such cases in particular acquired? Everything after birth is acquired. With reference to the etiology, as regards rheumatic influences, it was often difficult to say whether so-called rheumatic affections are really rheumatic. Physiological chemists and bacteriologists are changing one's conceptions in these matters very much. Within the last two months he had treated two children who had had chronic diarrhea for weeks and months. After recovery from the diarrhea they had joint affections, and then developed cardiac murmurs and albuminuria. He asked whether the urine had been examined in the case presented.

Dr. Butler said he examined the urine twice and did not find albumin. He did not examine it with reference to casts.

Dr. R. C. Newton mentioned a case that he saw in consultation about five or six years ago. The boy had a similar history and lived to be about eight years old, when he was taken with pneumonia which was fatal. He secured the heart and brought it to the Section in Medicine at the Academy, where some of those present may have seen it. The lesion turned out on examination to be a case of perforate ductus arteriosus. On auscultation the heart sounds were very much like those in Dr. Butler's case. There was a loud double murmur, and a great deal of hypertrophy. The boy had a pale, pasty complexion and little muscular development.

Perforation Following Pink-Eye.—Dr. Geo. McAuliffe showed this case, not because it was particularly interesting or unusual, except that it was the consequence of pink-eye. No doubt everybody has treated a great many cases of pink-eye this year, and had gotten to look on it as fairly innocuous after antiseptic treatment was instituted. This boy had an attack of pink-eye about three weeks previously. The perforation of the cornea took place about a week ago. He was not particularly warned about his eye, was told to use the combination of bichloride solution, 1-5000, and boric acid. Further than that he did not give it any attention and did not think it wise to come back and see about his eye. The consequences were only too obvious. It illustrated the need of careful examination and watchfulness in contagious ophthalmias. The prognosis of pink-eye in itself was good. He had examined about 100 cases in the Harlem Hospital Dispensary and inside of four days the inflammation would be near an end. This was apparently an uncomplicated case of pink-eye; it had the ordinary treatment and was dismissed with twenty or thirty cases. The patient did not come back until the perforation, preceded by scarcely any symptoms, had taken place. It showed how necessary it was to watch contagious inflammations.

Skiagraph of a Case of Pneumonic Osteo-Arthropathy.—Dr. Newton showed a skiagraph of the right hand of this case. The disease had been described by Marie and had been alluded to by Osler. The ends of the fingers and toes were involved and the facial bones spared. In Marie's opinion the disease is due to a latent or very low form of tuberculosis. The patient came into the hospital suffering from a large axillary abscess, which was evacuated in the usual way, washed out with bichloride and drained. It did not recover during the speaker's service. It being thought that the abscess had not been cleaned out properly, it was scraped out, opened up freely, and two or three more drainage tubes put in, but the wound did not heal. It was again opened and scraped out, but the abscess only partly healed. Having this large axillary abscess and being well bandaged up, a thorough examination of the man's heart and lungs could not be made, but on partial examination there seemed to be nothing wrong with the heart or lungs. The man was a Hungarian, a farm laborer, thirty-four years of age, and of fair intelligence. He said that his brother and father both had these peculiar fingers and toes and broad nails. He declared that his nails had always been this shape. He has had three children of his own, two of whom died early. The survivor has the same sort of fingers.

(To be continued.)

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NEW YORK ACADEMY OF MEDICINE.
SECTION ON SURGERY.

Stated Meeting, Held December 10, 1900.

Charles N. Dowd, M.D., Chairman.

Total Ureterectomy.—Dr. Willy Meyer presented a patient from whom the left ureter had been removed. The patient is a man of thirty-seven years of age, who suffered from pyelonephritis for several years and who four years ago had a left-sided nephrectomy performed. His general condition improved after the operation. He gained in weight and his febrile symptoms entirely remitted. The local symptoms were not improved, however, and he suffered from pain in the left side and from vesical irritation. There was frequent and imperative urination. Drainage through the perineum was suggested for this, and as long as the perineal opening remained his condition seemed improved, but as soon as it closed the old symptoms recurred. Washing the bladder was then done for a long time, but without any permanent benefit. Owing to the presence of a valve in the urethra, a steel instrument could not be passed. Cystoscopy was unavailable and it was impossible to collect the urine from the supposedly-healthy kidney and the secretion, if any, from the left ureter by means of urethral catheterization.

Diagnostic and Operative Technic.—Under these circumstances the following plan of determining the local condition was devised. The urine was passed and put aside; deep massage was then done over the region of the left ureter, and the urine was passed a second time. The second urine contained an amount of foul-smelling material that was not present in the first urine, and this showed that a septic infective process was at work in the ureter of the side on which nephrectomy had been done. Ureterectomy was decided on and the incision adopted was that suggested by Dr. James Israel of Berlin. The incision was carried parallel to the twelfth rib until the tip of the eleventh rib was reached. This wound was prolonged downward to the middle of Poupart's ligament and from there carried over to the median line. The ureter in this case was extremely hard to find because of the absence of the usual anatomical landmarks. The ureter was found buried in a mass of inflammatory tissue on the left side and was excised only after the most patient dissection.

Examination of Ureter.—This case emphasizes very forcibly the lesson that whenever nephrectomy is done, if the ureter is not removed with the kidney the operator should determine positively that there is no serious pathological process in it. In every case bougies should be passed down to the bladder to be sure that the ureter is free. Nephrectomy has failed in a number of cases to give the expected relief, because some pathological condition of the ureter remained unrecognized. Sometimes the stricture will be found in the ureter at its entrance into the bladder.

Abnormal Appendicitis.—Dr. John Rogers presented three cases of peculiarities in appendicitis. In the first patient, a boy of thirteen, an ordinary appendiceal abscess was opened and a pint of fetid pus evacuated. The boy convalesced normally for ten days and then after having eaten some candy developed acute symptoms on the left side. There was pain, localized tenderness and vomiting that seemed to point to intestinal obstruction. A diagnosis of invagination of the intestine was made and an operation performed. Incision led to the evacuation of a pint of pus from this side and then the boy proceeded to get well again. Some two weeks ago afterward localized symptoms of pain and apparently of a collection of pus were noted in the epigastric region. He had been running an afternoon temperature for some days that pointed to the existence of a purulent focus. A diagnosis of abscess was made and a third incision made, this time in the epigastrium. No abscess was found, but an adhesive peritonitis existed. The intestines were found agglutinated. The abdomen was washed out, the wound closed. The patient made a good recovery. The second patient, a boy of fourteen years, when admitted to the hospital was supposed to be suffering from typhoid fever. A tumor was found in the left iliac region and there was an afternoon temperature. The condition was found to have developed after gastro-intestinal disturbance. Pain and tenderness were distinctly localized at the beginning on the left side. When young subjects suffer from acute pain following gastro-intestinal disturbance, the safest diagnosis is appendicitis. This was made in this case and an operation performed. The appendix was found to lie transversely across the abdomen, the tip of it being almost midway between the umbilicus and the anterior superior spine on the left side. The end of the organ was gangrenous and it was here that the abscess had formed.

In the third patient, a boy of six, an abscess was opened in the usual locality for the occurrence of appendiceal abscess, but the patient's condition was so bad that extensive search for the appendix was not justified. After the draining of the abscess the boy got better, but after about ten days he was given some German-seed cake, after eating which pain and tympanites developed. The temperature ran up and vomiting set in. Examination of the abdomen showed an area of dulness in the region of the gall-bladder. An incision was made over the point where the collection of pus seemed to exist and the tip of the diseased appendix was found in the middle of an abscess adherent to the first portion of the duodenum. The appendix was abnormally long.

Sponging for Peritonitis.—Dr. Berg presented a patient who had been suffering from typical appendicular symptoms. The case was not a severe one, however, the pulse being but 95 and

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the temperature below 101° F. Shortly after the examination was made, intense abdominal pain developed and all the symptoms became very acute. The temperature rose to 104° F., the pulse to 130 and there was persistent vomiting. Operation was done as soon as possible, although several hours had elapsed and the pain had become so severe that the patient threatened to commit suicide. An intensely fetid peritonitis was found. The glands all over the abdominal cavity were enlarged. Pus was everywhere. The condition is described as diffuse peritonitis, not general peritonitis, because no examination of the lesser peritoneal cavity was made. The abdomen was carefully sponged out, sponges being carried well up under the liver and beneath the spleen and down into the pelvis. The reaction seemed almost marvelous. The operation was done late in the evening; the next morning the man was reading a newspaper and his temperature was 101.5° F. This is the eighth case in which Dr. Berg has used this method of sponging out for extensive peritonitis. In only one case has there been a fatal result. This took place as a consequence of an extensive abdominal phlegmon. The phlegmonous inflammation started from a stitch-abscess. Such abscesses are always a source of some danger in these cases, because, while the peritoneum seems to be perfectly capable of taking care of the infective material which may remain on it, the tissues of the abdominal walls do not prove so resistant. Four weeks after the operation the temperature in this case rose and signs of a subphrenic abscess were found. This was incised through the costal route in the axillary line. It is extremely difficult to clean out all parts of the abdominal cavity with sponges, and especially is it hard to reach the space between the liver and the diaphragm through an appendiceal incision.

Dr. Morris said that left-sided abscess is not infrequent and left-sided phlebitis sometimes occurs as a complication or sequela of appendicitis. Such abscesses are liable to develop some time after the original operation. During the height of the inflammatory reaction there exists a hyperleucocytosis which protects against infective material. Later on when the leucocytosis diminishes infective material is able to display its virulence.

Dr. Erdmann has had two cases of appendicitis in which the pain and tenderness occurred in the epigastric region and the abscess that formed was opened in this region. Dr. Erdmann asked if the pus in Dr. Berg's case had been examined bacteriologically and if the active agent in it had been found to be the bacillus coli communis. Dr. Berg replied that the bacillus coli communis had been found. Dr. Erdmann then said that the very fetid cases of peritonitis were always caused by the bacillus coli communis and that it was not a very virulent organism. He always congratulates himself in peritonitis cases when he finds that the pus within the abdominal cavity has a very fetid odor, because the prognosis is very much better in these cases.

In closing the discussion Dr. Berg said that his experience had not been like that of Dr. Erdmann and that very fetid pus often meant intense peritonitis and a bad prognosis.

Operation for Movable Kidney.—Dr. Robert T. Morris said that when operation was first suggested for movable kidney the sutures to hold the kidney in place were passed only through the capsule. Later the stitches were passed through some of the kidney parenchyma also. The inventor of the operation reported as the result of 27 operations, 15 recoveries, 4 improvements, 7 relapses and 1 death. This would be considered a poor showing at the present time. Guyon made the first suggestion for the improvement of the technic of the operation. He removed the fatty and the fibrous capsule and hoped that the plastic lymph which formed on the surface of the kidney would fix it securely. This operation fixes the kidney. Pain after the operation is, however, not unusual. At least there is a feeling of persistent discomfort which while not quite painful is often seriously annoying.

Dr. Senn suggested a further improvement in technic. He removed the kidney fat and scarified the capsule, afterward packing the wound with gauze so as to induce a throwing out of plastic lymph and a formation of connective tissue that would hold the kidney in place. Dr. Morris has used this method of Senn's in two cases with excellent results. The healing of the incision is, however, too slow in this method and this makes it unsuitable for the majority of cases. Some simpler method seemed advisable.

Capsule Fixed to Muscle.—Dr. Morris noted some years ago a suggestion to strip the fibrous capsule from the kidney over a large portion of its surface, pass the flap thus formed through a slit in the psoas muscle and stitch it there. At times the normal position of the kidney and the anatomical position of the muscles makes the quadratus lumborum more available. The advantage of this method is that no injury is done to the parenchyma of the kidney. Injury of kidney substance is inevitable where sutures are passed through the organs. The absorption of the suture always leaves a band of fibrous tissue. Such kidneys present a change in the secreting substance, sometimes even at a distance from the suture tract. A number of good observers have thought that clinically they could notice the damage done to the secretory function of the kidney. This new method is a very satisfactory one, also because it seems to give less liability to relapses than do most other methods of kidney fixation.

Effects of Movable Kidney.—Certain serious effects produced by floating kidney apart from the general symptoms that are characteristic of the condition seem worth while noting. Gallstones frequently occur in cases of floating kid-

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ney as the result of the pressure on the common bile-duct and the consequent interference with secretion and drainage. In a certain number of cases it has been noticed that the pressure of the loose kidney upon the duodenum has caused distention of the stomach. This is a true dilatation from obstruction and not merely a ptosis of the stomach as the result of a general relaxation of intra-abdominal tissue. In some cases it has been noted that pressure of the displaced kidney upon the superior mesenteric vein caused congestion of the cecum and appendix and so predisposed to attacks of appendicitis. The work of Dr. Edebohls especially has called attention to this complication of floating kidney, and his observations have been confirmed by a number of other investigators in recent years. Reflex gastric symptoms are very common as a result of irritation of terminal endings of the vagus nerve. Reflexes of the heart and of the esophagus are not so well known nor so frequently recognized, but they undoubtedly occur. In a recent case under Dr. Morris's care a patient presented most of the classical symptoms of esophageal stenosis. Bougies were used by prominent clinicians to overcome the esophageal stricture. Gastro-enterostomy, with backward dilatation of the esophagus, was suggested by surgeons in Boston and New Orleans. The patient found that, if he could lie down and keep his kidney in place during the act of swallowing, his difficulty was overcome. The irritation of the terminal nerves in the kidney sometimes sends reflexes into Auerbach's and Meissner's plexus. This occasionally gives rise to intestinal symptoms and predisposes to membranous colitis. This, of course, is a disputed question, but at least one recent case of Dr. Morris's seems to show a positive connection between the two affections. The patient was a physician who before operation for kidney fixation suffered from colic and the passage of mucous stools with membranous casts every morning for several years. Frequently during the day the colic and mucomembranous stools recurred. The man had become so exhausted that he considered it absolutely necessary to give up his practice. Since the operation he has had absolutely no distress, the attacks have disappeared, there is no mucus and no membrane in the stools. He has lost all his old tired feeling and he can work all day.

Palliative Treatment.—In the majority of cases of loose kidneys operation is not needed. Operation is necessary only when all ordinary mechanical means, bandages and the like, fail to keep the kidney in place or prevent the recurrence of reflex symptoms. Some loose kidneys give absolutely no symptoms. A short time ago, Dr. Morris had under observation a young woman who is a cross-country rider. She had noticed two funny things in her abdomen that seemed unusual and moved from place to place. They had not given her the slightest symptoms, she wanted to know what they were. In a certain number of cases floating kidney is associated with general enteroptosis, that is, a relaxation of the mesenteric attachments of all the abdominal organs that allows them to sag out of place. The liver, the stomach, the spleen, and the intestines may all hang lower in the abdominal cavity than they should and produce a reflex effect on nerves, as well as functional disturbance of the various organs. Surgical treatment of this condition is not so discouraging as many people consider it to be. All of the organs may be secured in place by making folds in their respective mesenteries. This operation is reasonably successful and produces an amelioration of symptoms that makes patients feel that they are practically cured.

New Kidney Tissue.—Dr. Edebohls said that a series of experimental observations made some years ago showed that new kidney tissue forms in kidney defects. When injury of the kidney causes destruction of the secreting substance proper, the defect is first filled in by connective tissue, but this is afterward replaced by true secreting substance. Dr. Edebohls has done 200 nephrorrhaphies, each time the sutures being made to pass through kidney substance. In not a single case has there been any subsequent discomfort traceable to the placing of the sutures in this way, nor have there been any clinical symptoms of interference with kidney function. The pain sometimes noted after operation for kidney fixation is usually due to a division of the ilio-inguinal and ilioguteal nerves. These are important nerve-trunks and should be pushed aside. If from inadvertence or necessity one of them is severed, it should be sutured.

Capsule Insufficient Anchorage.—Dr. Edebohls does not think that the capsule of the kidney is ever sufficient to hold a movable organ in place. The liver presses down upon the kidney and in coughing, sneezing and the like, considerable strain is put upon the organ, which forces it from its bed unless it is well anchored. In Dr. Morris's method it is not the capsular tissue which holds the kidney in place, but the fact that the surface of the kidney is extensively denuded and that this gives rise to lymph exudation and formation of new connective tissue. Dr. Edebohls is perfectly satisfied with the method of passing sutures through the kidney substance. In all of his cases there have been only five relapses. These relapses occurred in cases operated upon seven and eight years ago, and during the last five years there have been no relapses.

Sponge Disinfection.—Dr. C. A. Elsberg presented a new and simple method of sterilizing sponges by boiling. Boiling under ordinary circumstances renders sponges hard, rough and inelastic and makes them very unabsorbent. These difficulties with sponge sterilization have caused them to be replaced very generally by gauze pads, although these are much less capable of absorption. The secret of Dr. Elsberg's method consists in the use of a solution in which

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the albuminoid material of sponge is normally precipitated. The principal albuminoid constituent of sponge is spongein. This precipitates in a two-per-cent. solution of tannic acid, to which a one-per-cent. solution of potassium hydrate is added in equal parts. Sponges may be boiled in this solution any number of times and not lose any of their physical qualities. Bacteriological examination has shown that no germs exist on or in the sponges after sterilization by boiling. The sponges are first freed from calcareous material by being kept for some time in an eight-per-cent. solution of hydrochloric acid. They are then boiled on three successive days for a half-hour each day in the solution of tannic acid and potassium hydrate. This makes the sponges dark brown; they are then washed in sterile water until this color disappears. This makes a rapid, effective and inexpensive method of boiling sponges and when thus treated they may be used any number of times without danger.

Dr. Dowd said that this method fills a long-felt want in surgical technic, and that sponges treated by this method will surely be of the greatest service, as most surgeons are dissatisfied with the slight absorbent capacity of the gauze pledgets that are now in use.

MEDICAL ASSOCIATION OF THE GREATER CITY OF NEW YORK.

Stated Meeting, Held December 10, 1899.

The President, Robert F. Weir, M. D., in the Chair.

DISCUSSION ON SPINAL ANESTHESIA.

Neurophysiological Aspect of the Subject.—Dr. J. Leonard Corning opened the discussion with this paper. He gave a brief account of the researches and experiments on animals and the human subject which led him to the discovery of the method of intraspinal cocainization now in vogue.

Spinal Analgesia in General Surgery.—This paper was read by Dr. George R. Fowler of New York. (See MEDICAL NEWS, Vol. 78, p. 1.)

Obstetrical and Gynecological Aspect.—Dr. Marx said that his earlier experimental cases were failures because cerebrospinal fluid did not escape. In the first case in which he got fluid he was badly frightened when the patient developed symptoms resembling locomotor ataxia; but felt relieved afterward when the woman gave birth to a child without knowing it. In all his cases since then he had obtained fluid, and he would not now think of injecting cocaine unless this was the case. In the one hundred and twenty-five cases in which he had used cocainization after obtaining fluid there had been two absolute failures, and in one other anesthesia was incomplete. While his results had been gratifying, it was by no means his purpose to recommend this method in all obstetrical cases. It was unquestionably a serious matter, for when the cocaine injection was once within the spinal canal it was beyond the operator's control. As to the symptoms so well described by Dr. Fowler, they were so absolutely regular that he could not regard them as due to cocaine itself. In control experiments in which he had injected saline and other solutions, the same symptoms resulted, without the anesthesia produced by the cocaine. In one case that he had seen there were chilliness, rise of temperature, vertigo, and nausea and vomiting *before* cocainization, but they all disappeared when the fluid ceased to escape. He was convinced, therefore, that it was the loss of cerebrospinal fluid which caused the symptoms, and that the latter were simply nervous phenomena, the result of shock. From his experience he believed that these symptoms could be anticipated and prevented by the use of drugs, such as the bromides. The anesthetic effect was not apparently increased by injecting a large dose of cocaine, and the mistake was generally made, he thought, of using too large a quantity. He had found that one-sixth grain was ample, and in many cases one-twelfth grain would be all that was required. Eucaine, in his experience, had proved absolutely without value. In labor, if cocaine anesthesia was complete, there was no necessity for bearing down, and the delivery would be accomplished without pain. It was of very great service in prolonged first stage. Any bad results which he had noted from its use were of an evanescent character, and gave him no uneasiness. In gynecology cocainization had but a limited field, but it was valuable in cases in which a general anesthetic was inadmissible. The method was contra-indicated in two classes of individuals. These were those on whom cocaine has no effect, and the highly neurotic.

Intraspinal Cocainization and the Anesthetist's Standpoint.—Dr. S. Ormond Goldan said that he had employed the method in thirty-one cases and that his successes had been more numerous than his failures. After eliminating as far as possible all the causes of disappointment, however, he had still continued to meet with some cases in which the method was insufficient. Of all the anesthetics ether preceded by nitrous oxide gas was the safest, while cocainization, so far as one could judge at present, was the least safe, and should be resorted to only when a general anesthetic could not be given. In his patients he never failed to get fluid before proceeding with the injection.

In the general discussion which followed, Dr. V. P. Gibney spoke with considerable enthusiasm of the value of the method in orthopedic surgery. The patients whom he had selected were usually fifteen or sixteen years old.

Dr. E. H. Grandin had not been favorably impressed by the method. In two of the three cases which he had seen, the patients being neurotic Italian women, cocainization had failed to produce anesthesia, and in the third the anes-

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thesia was incomplete. In obstetrics he did not think its use justifiable. In the minor operations of gynecology, if any anesthetic at all was called for, nitrous oxide gas left little to be desired, and in the major ones a general anesthetic was preferable to cocainization.

Dr. Guiteras, in speaking of the five deaths reported by Tuffier, said that Tuffier himself seemed to think that only one of them was really attributable to the cocaine injection. He also gave a number of statistics reported by various European surgeons at the recent International Medical Congress in Paris.

Dr. W. S. Bainbridge had tested the method in a considerable number of children, whose ages ranged from two and one-half to nineteen years, and reported very favorable results. Eucaine was less efficient, as a rule, than cocaine, but in one case it produced complete analgesia when the latter had previously failed.

Dr. F. Kammerer, who had forty cases, thought the method of great service in genito-urinary surgery, but of distinctly less value for intra-abdominal work. He always used as small a dose of cocaine as possible, generally one-tenth grain, and rarely over one-fifth grain.

Dr. R. F. Weir was the last speaker. In some of the ten cases in which he had tried the method at Roosevelt Hospital he had had a great deal of anxiety for a time, and so far it had not presented itself in a very encouraging way. Out of 400 cases which he had seen recorded there were, including the five reported by Tuffier, no less than eight deaths. Still, it was too soon to form a positive opinion in regard to its efficiency, and time must be allowed for further observation.

BOOK REVIEWS.

ATLAS AND EPITOME OF DISEASES CAUSED BY ACCIDENTS. By Dr. ED. GOLEBIEWSKI, of Berlin. Authorized Translation from the German, with Editorial Notes and Additions by P. BAILEY, M.D. Forty Colored Plates and One Hundred and Forty-Three Illustrations in Black. Philadelphia: W. B. Saunders & Company, 1900.

THIS volume considers diseases caused by accidents in their relation to the accident insurance laws of Germany. This law gives to workmen disabled by accidents, occurring in connection with their work, indemnities varying from two-thirds of their ordinary wages for total disability down, according to the degree of disability and their wage-earning capacity. This indemnity is readjusted from time to time as the wage-earning condition of the insured becomes worse or better.

The book consists chiefly of histories of cases occurring in Golebiewski's practice, illustrating the symptoms and sequelæ of accident-injuries as discussed in the text in reference to the adjustment of the accident insurance.

In this country the work will prove of value only to those physicians and lawyers (chiefly the latter) interested in settling legal claims for damages for injuries due to accidents.

The best part of the book is the illustrations, of which the colored ones are beautiful examples of the artist's and lithographer's skill. The American editor has made some additions bringing the book in accord, in part, with the laws of this country.

TRANSACTIONS OF THE AMERICAN OTOLOGICAL SOCIETY. Thirty-Third Annual Meeting, Washington, D. C., May 1, 1900. Vol. VII., Part III. Published by the Society. Printed by Mercury Publishing Company, New Bedford, Mass.

THESE transactions are remarkable for two things apart from their intrinsic value, *viz.*, their brevity and their focus. Of seven papers read, three by Drs. Hiram Woods, E. B. Dench and Ed. Friedenberg, deal with Sinus Thrombosis and Its Congeners; two by Drs. H. Knapp and G. Bacon, with Extensive Caries of Mastoid and Cerebral Abscess (and the remaining two with Chronic Ear Vertigo and Clinical Anatomy of the Eustachian Tube. Thus, five papers treated of chronic suppurative ear troubles, dangerous to life, showing how otologists recognize that they are driven into the most vigorous kind of struggle with destructive forces in the treatment of ear diseases. As one would expect, therefore, the papers throb with interest, the discussion of them not less so. Both writers and speakers are men of strength in their department and the Transactions have a corresponding value. In addition to the above, this volume contains forty-two pages of a valuable otological bibliography, alphabetically indexed for the period June 1, 1899, to June 1, 1900, compiled by Mr. Henry Alderton, of Brooklyn.

TRANSACTIONS OF THE AMERICAN OPHTHALMOLOGICAL SOCIETY. Thirty-Sixth Annual Meeting, Washington, D. C., 1900. Hartford: Published by the Society.

THIRTY-FIVE papers were presented by twenty-eight members on fifteen phases of eye-study. There were two papers on entropion which were well discussed; six on vascular and other tumors of the eye and orbit; five on intranasal conditions; five introducing new apparatus; five concerning the sight-perceiving elements; three about lens conditions and one each on surgical treatment of high myopia, excision of the lacrimal sac, disease of the choroid, treatment of dendritic keratitis, glaucoma, histology of the lacrimal gland, spastic strabismus and pseudo-sympathetic inflammation from blind eyes.

Two of the new devices are lanterns for testing color-perception presented by Drs. Wm. Thomson and C. H. Williams. The intranasal conditions are affections of the accessory sinuses involving the orbit and pressure symptoms between the middle turbinate and the ethmoid cells—headaches like those from ocular asthenopia. In these latter the treatment is radical, *i. e.*, removal of the turbinate. The charts are placed where they belong in the text and thus add greatly to the value of these transactions.

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Manual of the Diseases of the Eye. By CHARLES H. MAY, M.D., Instructor, Eye Department, in the College of Physicians and Surgeons, Medical Department of Columbia University. New York: William Wood & Company, 1900.

THIS new manual for students and general practitioners treats diseases of the eye in "a concise, practical and systematic way," as the author states it. The book is small enough to go into the pocket, yet it is comprehensive of its subject. It is "up to date." The arrangement is excellent, because it takes up the subject just as the specialist would take up and carry through a thorough examination of the patient. Besides it completes the treatment as it goes along. When an operation is needed, it is done. Thus, the book interests one from the start. Scientific use of laws of optics comes in for its proper share of attention well on in the book after interest has been aroused and maintained and need for the knowledge in its application to lenses has arrived. Two figures, 168 and 175, are especially helpful to lucidity. When the avowed purpose is considered and originality is disclaimed, the work has merit in all its features.

Original Contributions Concerning the Glandular Structures Appertaining to the Human Eye and its Appendages. With Seventy-One Original Illustrations. By ADOLPH ALT, M.D., Professor of Ophthalmology in Beaumont Hospital Medical College, St. Louis. American Journal of Ophthalmology, St. Louis.

AFTER years of patient dissection and work with the microscope, Dr. Alt has given us the result of his investigations on the histology of the glands pertaining of the eye, in a book with only a few pages of text but beautifully illustrated with seventy-one original illustrations. This field has not been much worked. The author's studies substantiate the findings of A. Tersen of Paris, and their two works stand alone as complete monographs on the subject. They show, among other things, that there are many glands in the eyelids of like structure with the lacrimal gland and which evidently perform the same function, enabling the eyes to endure without detriment, abation of the larger gland. The plates with their explanatory notes give us a valuable and needed addition to the literature on the eye.

Pathology and Morbid Anatomy. By T. HENRY GREEN, M.D., F.R.C.P. Ninth American Edition, Revised from the same English Edition. Lea Brothers & Co., Philadelphia and New York.

DR. GREEN'S book of pathology has been so extensively welcomed in the past that it needs no words of introduction at this time. To those who had the opportunity of knowing the previous editions, it will at once be evident that the old arrangement has largely been adhered to; some of the sections, notably those treating of hematology and neuropathology, have undergone considerable revision and addition. The admirable plates of the malarial parasites will be welcomed by all students; the cycle of development is so well shown that any text almost seems superfluous. The etiological consideration of the malarial fevers has been brought up to date by a short mention of the mosquito in this connection, as well as by the drawings of the Culex and Anopheles. In the matter of drawings it is to be regretted that so few are of the same excellence as those found in the chapter on blood.

Some excellent text-books on pathology have made their appearance on the American market within the last two or three years; just what porsition will finally be accorded each will be interesting, but it would prove unwise to predict at the present time. Dr. Green's book has done good service in the past and no doubt many will still consider it an excellent book for students.

BOOKS RECEIVED.

A CLINICAL TREATISE ON FRACTURES. By Dr. W. B. Hopkins. 8vo, 268 pages. Illustrated. J. B. Lippincott Company, Philadelphia.

EXPERIMENTAL RESEARCH INTO THE SURGERY OF THE RESPIRATORY SYSTEM. By Dr. G. W. Crile. Second Edition. J. B. Lippincott Company, Philadelphia.

THE ESSENTIALS OF PRACTICAL BACTERIOLOGY: An Elementary Laboratory Book for Students and Practitioners. By Dr. H. J. Curtis. 8vo, 290 pages. Illustrated. Longmans, Green, & Co., New York, London and Bombay.

TEXT-BOOK OF PHYSIOLOGY. Edited by E. A. Schäfer, LL.D., F.R.S. Volume Second. 8vo, 1363 pages. Illustrated. The Macmillan Company, New York.

MUSHROOMS, EDIBLE AND POISONOUS. Studies of American Fungi. By Geo. F. Atkinson. 8vo, 300 pages. Illustrated. Andrus & Church, Ithaca, N. Y. $3.00.

MASSAGE IN RECENT FRACTURES. A Series of Lectures. By W. H. Bennett, F.R.C.S. 8vo, 97 pages. Illustrated. Longmans, Green, & Co., New York, London and Bombay.

THE PRESENT POSITION OF THE TREATMENT OF SIMPLE FRACTURES. An address. By W. H. Bennett, F.R.C.S. 8vo, 40 pages. Longmans, Green, & Co., New York, London and Bombay.

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THE MEDICAL NEWS.

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ORIGINAL ARTICLES.

LAKEWOOD AS A WINTER RESORT.

BY WILLIAM GRAY SCHAUFFLER, M.D.,

OF LAKEWOOD, N. J.

WHILE much is written in the daily papers about Lakewood as a fashionable resort during the winter months, and many people know of it as a place in which to spend a jolly holiday season, few stop to think why it is so attractive to the tired city folk, and fewer still appreciate the reasons that make it more than an ordinary pleasure ground.

It will be my aim in the first place to bring together facts showing the physical characteristics of the place, and in the second place to give my reasons for regarding Lakewood as unique among the resorts of this country.

The village of Lakewood was known until 1832 as Washington Furnace, then until 1865 as Bergen Iron Works, and from then until 1880 as Bricksburg. Since 1880 its name has expressed the two main natural features of the place, a lake surrounded by woods. In earlier years, as the name implied, Lakewood was given over to the iron industry, and also derived some importance from its situation on the highway from Freehold, the county seat of old Monmouth County, to Toms River, the most important seacoast town of the vicinity.

Lakewood is distant from Jersey City, Philadelphia and Atlantic City about sixty miles by rail, and is very easy of access from all of these cities, express trains covering the distance in from one and a half to two hours. It is also easily reached by carriage from the sea-coast, being but nine miles from Point Pleasant and ten miles from Toms River. As the crow flies, the sea-coast is but seven miles off, in a southeasterly direction, and in the spring and summer, sea-breezes tempered by sweeping through the pines, give Lakewood a whiff of salt air.

The peculiarities of situation and surroundings which make Lakewood unique in the Northern States are due to its sandy soil and pine forests. There is a pine and sand belt from 8-20 miles in breadth, stretching inland from the coast for about sixty miles, and on the northern border of this belt lies Lakewood.[1]

The depth of the sand varies throughout this extent. At Lakewood it has been shown to reach a depth of from 500-600 feet, thus furnishing the driest possible soil. The pine forests extend in all directions and are especially thick to the north and west. As the prevailing winds during the fall and winter come from these directions, they are necessarily much tempered by blowing across these great areas of pine woods, losing thereby some of their harshness. It is a popular notion among many frequenters of Lakewood, that they derive great benefit from breathing in the pine air. This theory, while it may not rest on a scientific basis, does much good in encouraging people to live out-of-doors, and can therefore be conscientiously encouraged.

A great deal has been written and said about the temperature of Lakewood being from ten to twelve degrees warmer than that of New York, and this statement even finds a place in Solly's Medical Climatology. While this is partially true, it is somewhat misleading and should be carefully explained. There is no doubt that warm weather holds until later in the fall, and commences earlier in the spring than in the surrounding cities, but during a cold snap the thermometer goes down to fifteen or ten or even five degrees above zero. It rarely stays low for any length of time, and the great preponderance of sunny days gives the sensation of greater warmth than the thermometer actually shows.

The greatest factor in the apparent warmth of the climate is a low percentage of humidity. Records which I have kept by means of a Draper self-recording thermometer give the average temperature for the winter season of 1899-1900 as follows: October, 63.39° F.; November, 52.53° F.; December, 44.85° F.; January, 42.89° F.; February, 40.94° F.; March, 46.71° F.; April, 57.97° F.; May, 63.16° F.

During this time there were several cold snaps which brought the averages somewhat lower than in other years. But cold weather, that is with the thermometer below 32° F., almost invariably means bright sunshine, and a cold damp day is the exception.

The average height of the barometer from October, 1899, to June, 1900, was 30.07 degrees. The record of humidity in Lakewood is something quite surprising. There being no self-registering hygrometers it is impossible to keep an accurate record, as the variations are so sudden that there will often be a difference of 40 per cent. in half an hour. The figures I shall give have been observed by me personally, and as far as they go, are accurate.

I would call the average humidity of Lakewood for the hours from 9 a. m. to 5 p. m. about 45 per cent. Before and after these hours it runs up from 65 per cent. to 85 per cent. A very common reading from 11 a. m. to 3 p. m. is 25 to 30 per cent. On November 21st I made the following remarkable observation: After a sudden and very heavy rain-storm lasting about one hour, the thermometer dropped 20 degrees,

[1] See The Pine Belt of New Jersey. Isaac Hull Platt, M.D., Transactions of the American Climatological Association, 1889.

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the barometer rose 0.35 degrees, and the hygrometer registered 0 per cent. Not believing such a thing possible, I carried the instrument into the house, when it promptly rose to 60 per cent. On placing it again out of doors in the wind, which was blowing strongly from the south, it dropped again to 0 per cent. and stayed there for about two hours. I have frequently seen the instrument at 15 per cent. to 20 per cent. for hours at a time. All this goes to show, not that Lakewood is the driest place in the United States, for that is not so, but that the average humidity is low, and at times, and that almost daily, there is no appreciable moisture in the air.

As I have said before, this state of things is brought about by conditions of soil and surroundings which are unique in a northern climate. Let me give one recent instance of the rapidity with which moisture disappears. On December 21st last, between 4 and 5 p. m., five inches of snow fell. The morning of the 22d was crisp and cold, with brilliant sunshine. In the afternoon it grew warm, and during the night the snow melted rapidly. On the 23d it rained, and by the morning of the 24th every vestige of snow had disappeared, the ground was bare and the principal streets were dry enough for bicycling. This condition of heavy rain and snow, followed within forty-eight hours by dry roads fit for walking or wheeling is a very common one. The percentage of sunshiny days is very large, and this fact adds greatly to Lakewood's usefulness as a resort.

The depth of the sandy soil guarantees a perfect water-supply. The large hotels and some individuals have sunken artesian wells from 500 to 700 feet in depth, and have thus secured for themselves an inexhaustible supply of the purest water. The village at large is supplied from a series of artesian wells combined with lake-water which filters itself through several feet of sand into earthen pipes. This water has been shown by careful analysis to be entirely fit for drinking and cooking purposes. A carefully planned and regulated system of drainage is under the same supervision as the water-supply, and no pains are spared by the authorities to keep the drainage and water-supply as perfect as possible.

Lakewood's population consists of the regular inhabitants and the guests at hotels and cottages. The former amount to between two and three thousand, and this number is nearly doubled during the height of the season. A more cosmopolitan population one would have much difficulty in finding. All the large cities of the east send their regular contingents, and it is a common saying among old residents that if you will have patience you will in time meet every one you ever knew at one or the other of the hotels. The residents have done a great deal to beautify the village, and they take both pride and pleasure in doing so.

With all these natural advantages it is not difficult to see why Lakewood should be especially adapted for a winter resort. But the natural advantages alone would not induce so many hundreds of people each season to spend weeks and even months in this little village. To Nature's best, there have been added in the way of hotel and cottage accommodations all that man's ingenuity can invent. The large hotels provide the very best accommodations possible, with cuisine and service not surpassed anywhere, and in the small hotels and many excellent boarding-houses are accommodated hundreds who prefer a quieter and simpler life than the hotels afford. Nowhere in this country or abroad are the wants of the guests more carefully attended to and their welfare more fully consulted. And yet Lakewood does not give a stranger the impression of being full of invalids. Sick people there are in abundance, but they do not obtrude themselves upon the sight and attention of the well.

The great proportion of pleasant days make all outdoor sports possible to a far greater extent than is usual in our Northern States. Golf goes on throughout the fall and winter with such regularity, that tournaments, calling together the leading amateurs of the country, have become fixtures for Thanksgiving, Christmas and New Year's, and Lincoln's and Washington's birthdays. The hard, level roads are most inviting to wheelmen, and horseback-riding claims a large number of devotees. Hunting and polo-playing offer attractions to the more venturesome riders and the beautiful walks and drives into the woods in all directions give ample opportunity for all to enjoy exercise and fresh air.

The Lakewood season has for twenty years commenced with the opening of the Laurel House on October 1st and closed on June 1st. During the summer months few remain, but those who do so report almost uniformly pleasant weather, with periods of intense heat and frequent heavy thunder-storms.

In my opinion Lakewood owes its usefulness as a health resort chiefly to two factors. its comparative mildness of temperature and its phenomenal dryness. These two facts make it possible for chronic invalids and those recovering from acute illnesses to spend a large portion of their time out-of-doors in the bright sunshine. When to this are added the inducements to active exercise offered by bicycling and golfing, and the fact that these pastimes are possible nearly all winter long, owing to the extreme dryness of the soil, it is readily seen why people in all stages of weakness and strength are attracted.

While the newspapers have given Lakewood a certain degree of notoriety as the winter home of not a few society people, the majority of those who build houses and spend the winters here, originally settled on Lakewood as their home because of benefits which some members of their families have derived from the climate. This class of cottagers is slowly and steadily increasing.

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This leads me to speak of a few of the conditions for which I believe Lakewood to be especially beneficial. Patients suffering from asthma find speedy and often permanent relief. Various forms of bronchial and laryngeal disease yield more quickly to treatment when combined with the out-of-door life possible here. Patients in the very first stages of tuberculous trouble often are able to arrest the process by a residence at Lakewood. But I wish just here to enter a strong protest against the custom of some physicians of sending advanced cases of phthisis to Lakewood, assuring the patients that a few weeks will make new men of them. My own firm conviction is that such cases do badly here, and should not be encouraged to come.

Other patients who do well at Lakewood are those convalescing from acute diseases. The change of scene from city life and surroundings and the constant incitement to outdoor exercise help to bring back appetite and strength. But here too, I wish to utter a word of caution. Too many patients come to Lakewood with instructions from their home physicians to "live out-of-doors." Consequently they start out by overdoing physically, and soon find themselves languid and overwrought, and instead of the rapid gain promised, they feel worse than when they left home. This condition could easily be avoided if the home physician would only insist on moderate exercise at first, increasing with the added strength gained. This may seem a small point, but by its careful observance, much harm can easily be prevented.

One more class of people derive marked benefit. To sufferers from the various forms of neurasthenia Lakewood offers especial attractions. From a rather extensive experience with such cases, I have reached the conclusion that nearly all forms of nervous prostration and excitement can be helped greatly. There is something in the atmosphere and surroundings which seems to have a quieting effect on overwrought nerves. It is a very common observation, even among laymen, that for several days after coming to Lakewood, one is constantly sleepy, showing how the nervous tension relaxes.

In what I have said I do not pretend to exhaust the list of conditions which make Lakewood what it is. I have simply touched on a few practical points. There is one more practical point which may be spoken of, and that is the expense of sending patients to such a place as Lakewood. It is often said that Lakewood is too expensive a place for many people to come to. Regarded simply from the economic standpoint of staying at home, the criticism is well taken. But when we take into consideration that other suitable and cheaper places, such as the far south or the far west can only be reached by long and expensive railway journeys, the matter of expense will not seem so great. Good accommodations can be secured from $2.50 a day up. Some few houses furnish lower rates, but the average is about $25.00 per week per person.

In closing let me remind you that Lakewood does not pretend to the dignity of a European Spa. It is simply a nearby country village, pretty and attractive, dry and sunshiny, free from malaria and infections of all kinds, so situated that outdoor life is possible nearly every day during the winter, and where delicate men, women and children have for many years past found returning health and vigor.

THE CLIMATIC TREATMENT OF CHRONIC BRIGHT'S DISEASE.

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IT is to be regretted that our knowledge of the effects of climate upon Bright's disease must be expressed for the most part in generalities, because almost no systematic observations have been made as to such influences. What has been done in this direction has been chiefly collection of mortality reports in certain districts which have been compared with each other.

Reasoning from general principles, we conclude that by far the most important factor in the treatment of chronic Bright's disease is that there should be as little cold, moisture and variation in temperature as possible. Hence, the hot, dry climate should be more beneficial than a cold, dry climate; either is better than a temperate climate, such as that found in the United States, with ground saturated with moisture and consequent dampness, with sudden changes of temperature, and marked difference between the day and night temperatures. It is acknowledged that renal disease is more prevalent in such a temperate climate, less in a cold, and rare in a warm. The kidneys do more work in a changing temperature climate and, therefore, are more subject to derangement, while in a hot climate the liver and skin are more disposed to disease, and in a cold climate the lungs. These tendencies must, of course, be influenced by such conditions as overwork, worry, syphilis, gout and excessive use of alcohol. In view of the increased function of the skin and kidneys through the ingestion of water, generally taken in large quantities, the hot, dry climate would seem best adapted to influence favorably renal disease.

Another important agency is the effect of winds, which are known to be very detrimental and which are met with in all, although they are more prevalent in cold climates.

Dr. S. E. Solly, in his book on Medical Climatology says, "The direct tendency of altitude in chronic nephritis, as in most chronic diseases, is toward its cure. This beneficial influence is, doubtless, mainly exerted through the increased

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action of the lungs, and to a smaller extent, of the skin, which lessens the work of the kidneys, and diminishes the renal congestion by the general stimulating and equalizing of the circulation." He also states that he prefers a warm, low, inland climate, such as Egypt and Arizona, for the majority of cases of chronic Bright's disease. This is confirmed in part at least by Purdy's studies, which show a low rate of mortality in the South Mississippi river belt, where the mean elevation is 100 to 300 feet, the rainfall 50 to 55 inches, the mean temperature 60° to 65° F., and the death-rate from Bright's disease 3.14 per 1000 deaths, as determined from the census of 1880. The Southwest central region, with an elevation of 100 to 500 feet, rainfall of 35 to 50 inches, temperature of 60° to 70° F., has a mortality of only 1.97 per 1000. We cannot but think that some of these results may be due to the difficulty of securing accurate statistics in these regions. Based upon a record of the mortality of the disease, the States most unfavorable for patients suffering from renal disease are New Jersey, New York, Massachusetts, New Hampshire and Vermont, and those most favorable Tennessee, Georgia, Nebraska, North Carolina, Arkansas, Texas and certain parts of Southern California. It will be seen that the States that are the most favorable have about the same climatic conditions—even temperature, dryness and warmth, with less amount of wind velocity. This is the reverse in the States in which the mortality is greatest, and the climatic condition is one of moisture, changeability of temperature with coldness.

In grouping together large areas we find that the mortality is highest in the Middle Atlantic Coast region, next in the North Atlantic, and next in the Northeastern hills and plateaus, the South Atlantic Coast region, and, lastly and least, in the Southern Central region. In trying to explain the great variations in the death-rate in these different locations, Purdy rightly says that it is not to the climatic conditions alone in the Middle Atlantic Coast region that we must ascribe the greater number of deaths, but we must consider also the larger population, the habits and social condition of those living in the large cities, as well as the greater prevalence of certain diseases, like syphilis, scarlet fever and pneumonia, which predispose to Bright's disease. In the North Atlantic Coast region, in which we do not find the same social condition and as many of the diseases causing Bright's disease, but where the climate is far worse than in the Middle Atlantic region, we must admit a larger influence of climate.

In the Northeastern hills and plateaus, where the mortality is still less, there is more evenness of temperature than in the other two regions, although it is very cold and the winds are high; we must conclude that the lessened mortality is due to the small amount of moisture. Again, in the Southern Atlantic regions there is a low death-rate, and since moisture is more conspicuous, we must conclude that equality of temperature and diminished wind force are responsible factors.

Another feature which must be remembered in sending a patient to the region most suitable to his condition is that most cases of chronic Bright's disease have either a failing heart or one that has already lost compensation. Hence, we must not only decide upon a climate and an altitude suited to the renal affection, but also one that is adapted to the cardiac condition—a fact which makes the problem still more difficult. For such cases high altitudes are harmful.

TREATMENT OF SYPHILIS AT HOT SPRINGS, ARK.

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SYRIA and Chaldea—the latter having for its capital Babylon—were noted in ancient times as centers of debauchery. On the Assyrio-Babylonian cuneiform inscription tablets in the British Museum, derived from the royal library of Sardanapalus, it is related that Istar, the goddess of sinful love, proposed to Nimrod to become his wife, a proposition which the latter very ungallantly refused. Istar demanded satisfaction for this insult from her father, Anu. As a result, the sacred bull was sent against Nimrod and his friend Eabani. Eabani seized the animal by one horn and the root of its tail, while Nimrod fatally bored its heart with a weapon. Istar uttered an awful curse, to which Eabani replied by tearing out the penis of the bull and throwing it full in her face. A new curse was hurled by the goddess, and Eabani died after a short illness. Nimrod was likewise attacked with a painful disease. He wandered about until he reached the infernal regions, where he was given "magic food" for his complaint. This remedy apparently had no effect, for Nimrod continued to complain that the shadow of death lay on his genitals. The god of the infernal regions then took him to the ferryman, and bade him take the hero to the fountain of life, saying: "The man whom thou hast taken has his body covered with pustules; scales have altered the fairness of his body. Take him to the cleansing place, where he can wash his pustules clean and take off his skins; the water will carry them off; his body will appear well. The coverings of his head will be renewed, also the coverings of his shameful parts; by the time he returns to his country there will be no folds; all will be new." Then follows, after an interruption in the text, "He renewed his head coverings; the sheath which clothed his shameful parts was new when he reached his native land." Eabani evidently had lues, for Nimrod prayed that he might not die like his companion.

From mythological times the people have sought a fountain which to them should be a fountain of youth. So with us, from the time whereof the memory of man runneth not to the

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contrary, this place has been the Mecca of syphilitics. In the mind of the laity the springs have been regarded as a specific for this disease. That these unfortunates do find relief from their sufferings in an almost incredibly short space of time cannot be denied.

Why do they get well here so much more rapidly than elsewhere? In the first place the hygienic treatment of this disease does not receive the attention which it should at the hands of the general practitioner or the specialist in our towns and cities. And yet this is the first line of treatment laid down by all syphilographers, and after it, and along with it, comes the specific. And whether we will or not, this class of patient get both lines of treatment in perfection. The patient, it may be, comes from the crowded and rushing life of the city and finds here all the comforts of the city plus something more—the exhilarating life of the pure country air, laden with all the ozone and freshness of the Ozark Mountains—from the dust and hurry and strife of the busy city to the quietness and freshness and greenness of the forests, to a home in the woods, practically, for the forests are all about him. Here he may spend, not only a few hours, but all of his days, under the shade of the trees. From business cares to absolute rest; from worry to peace; from the noise and dust and turmoil, if he wishes it, to a perpetual Sabbath. He may sit in the beautiful park on Hot Springs Mountain and see the world pass beneath him and he simply a looker-on. From feeling himself an outcast, with the mark of Cain on his brow, he here finds congenial spirits who take him out of himself and make him forget that he is afflicted with a loathsome disease. He sees so many getting well around him that hope springs up in his breast and he once more takes up the battle of life with renewed energy. As a result of all these influences his vital processes are quickened, his worry disappears, his appetite and digestion become perfect, his assimilation is improved, and everything with him goes well. From despair there is a rapid change to renewed hope and determination.

Physicians everywhere know how difficult it is to get a walking patient to do anything thoroughly; know how difficult it is to get a man who does not feel very ill to take medicines promptly and regularly; while the same man here will obey his physician absolutely. At home he does not appreciate this necessity, but here, in Hot Springs, he makes a business of getting well and does it. If we tell him to stop using tobacco he will do it. If he has been accustomed to alcoholic drinks he will not touch them. If he has been dissipating by keeping late hours, he will retire at any time we tell him. If the pleasures of the table are a temptation to him, on the order of his physician he will lead an abstemious life. In other words, we have him under perfect control and we may do with him whatever we wish.

Aside from all these hygienic advantages of which we avail ourselves to the utmost, we have unequaled bathing facilities in these far-famed waters. How do they act in this class of patients? We have the patient infected with a specific micro-organism, the bacillus of Lustgarten, the organism recently described by Neusser, diseased white blood-corpuscle of Otis, or whatever one may please to call it. One thing that we do know is that in this patient's blood and tissues there is circulating a pathogenic microbe, with all its consequences. And what are they? Primarily, a disease of the lymphatic system, the whole blood soon becomes impregnated, nutrition is interfered with, the victim becomes hydremic, and the blood, loaded not only with the micro-organisms of disease, but with an excessive amount of the "blood-dust" of Müller; and along with this blood-dust there are toxins which accompany the life-history of all growing bacilli.

Toxins, blood-dust and pathogenic organisms, and, following in their wake, or as a result of their presence, mental depression, worry, indigestion, and malnutrition, each reacting on the other, and there is developed a vicious cycle which will not and cannot be broken at home. All these things break down and cripple those marvelous little friends of ours—the phagocytes, or white blood-corpuscles. They are overwhelmed in their task of eating up or destroying the germs and their toxins, and the result is faulty metabolism and all the ills that flow from this state of things.

While in this condition the patient comes to the Hot Springs and commences the business of getting well. The hygienic treatment above alluded to is supplemented by the baths and drinking of the hot water. The excessive amount of blood-dust is rapidly eliminated, toxins are washed out, and the phagocytes have an opportunity to assert themselves, and a fighting chance with the micro-organisms of the disease. While this is going on the patient receives specific treatment. By this the red corpuscles are increased in numbers and the hemoglobin rapidly rises to normal. Almost before the patient knows it he finds himself gaining in flesh and healthfulness.

We take it that these waters act as a powerful eliminant for dead and effete material, and thus stimulate tissue metabolism wonderfully. The stomach, skin and kidneys are profoundly impressed by its free use, and thus digestion is aided, tissue change promoted, dead material washed out, the toxins, of whatever nature they may be, eliminated, and Nature given a fighting chance with disease germs and their products. After all, there are not many specifics in medicine. Nature has provided the phagocyte, or white blood-corpuscle, for our protection. If this defender of the body is in good fighting trim the invading enemy will be overcome and the toxins they produce in their life-history will be eliminated by the skin and kidneys.

Aside from the specific contagious diseases which afflict humanity, practically all the ills of mature life, and many of those of younger people, are produced by faulty metabolism, defective elimination of tissue waste and toxins, which have

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been made by bacteria of various kinds which gain entrance into the economy through the intestinal and respiratory tracts. "The battle of the cells" of Virchow is a reality, we all know to-day, and our bodies are the battle-ground. The invading germs are met at the threshold by the defenders, our good fairies all arrayed in white; not as the fairies of good Queen Mab, clothed in green, but in white—the white corpuscles of the blood, armed not only with this power to attack and digest the invader, but also with the ability to furnish an antitoxin which will neutralize the toxins of bacterial origin. These antitoxins are called alexins, and, together with the germ-destroying power of the white blood-corpuscle, are Nature's provisions for protection against an enemy which has gained an entrance into the blood. This power cannot be properly exercised if the skin, stomach, liver and kidneys are not doing their work in a perfect manner. Failure of eliminating organs to get rid of the results of tissue metabolism clogs the machinery of life, cripples and poisons these little and powerful defenders, and the result is disease in some one of its many forms.

It has been demonstrated by Reiss and others that the red cells are decreased in numbers shortly after the initial lesion is observed, and that this decrease continues until the secondary symptoms appear. The hemoglobin also sinks from the very beginning of the disease.

Konried ascertained that during the first four to seven weeks the red cells remain normal in number, but that the hemoglobin decreased and continued to decline until treatment was begun. In two hundred examinations, Newman and Konried reported that up to the appearance of the secondary symptoms twenty-five to thirty per cent. of hemoglobin was lost, with a considerable decrease in number of the red cells.

Lezius found that the diminution in the number of red cells occurs at the outbreak of the eruptions, and that the hemoglobin may sink as low as twenty-five per cent.

A very remarkable thing occurs with the white cells. Leucocytosis always takes place. Microscopical examination of the blood will show a very large increase of these defenders. There are a great number of lymphocytes present in this class of cases, and many eosinophiles may be found. In this increased leucocytosis Nature's effort to destroy the invading micro-organism is evident. Under appropriate treatment, with the baths an adjuvant to get rid of the *débris*, the toxins are washed out.

Administration of the iodides and mercury is followed by decrease in the white and an increase of the red cells. These remedial agents go to the assistance of the white cells. The germs of disease are destroyed and the leucocytes find themselves out of employment and decrease until they reach the normal.

It has been demonstrated that the exhibition of mercury increases the count of red cells for the first three or four weeks of its use, and that after a time, if it is continued, there is also a loss of both the red corpuscles and the hemoglobin. The same thing is true of the use of the iodides. Hence we find that when these remedies are pushed for too long a time or in too great quantity, the patients lose ground; especially is this true when the elimination of the remedies is not encouraged by the use of baths.

By reason of the very rapid elimination of medicines produced by the drinking of and bathing in these waters, we may give much larger doses of the remedies required in the treatment of disease than is usually tolerated by the patients in their homes. Instead of twenty grains of iodide salts, three times daily, it is a common thing to give fifty to one hundred grains at a dose. When the gummatous infiltration threatens the eye, the hard and soft palate, the brain or spinal cord, we do not hesitate to give one thousand grains a day. Of course, these large doses are exceptional, and are given only when some very urgent demand exists. We have learned that each patient must be a law unto himself—what one man bears with impunity another cannot take; that each man has his dose, beyond which he cannot go. Commencing, then, with fifteen to twenty-grain doses, we push the remedy until the patient suffers from iodism, or until the symptoms for which it is given yield to the remedies, even if it takes one thousand grains a day.

In the same manner we use mercury in such doses as the patient may need, whether that may be one dram of mercurial ointment daily, or four times as much, always bearing in mind the physiological and pathological effect of the remedy on the blood-corpuscles.

We prefer mercurial ointment to any other form of administration. It does not disturb the stomach and bowels, save in exceptional cases; and in these cases the remedy by the mouth would scarcely be tolerated at all.

Under the microscope the blood-dust will be found to have diminished greatly, the red blood-corpuscles increased in numbers, the hemoglobin become normal and the patient well.

This we have seen so often that we can promise a patient absolutely that his syphilide will disappear promptly under the influence of the baths and specific medication in a very short time. How short? Well, for all the secondary eruptions, from ten days to six weeks. His skin will become as it was with Nimrod, white and soft and clear; his spirits will revive; his digestion will be all right, and he will gain from ten to thirty pounds in weight. Can the physician in the ordinary lines and places of practice make good any such promises as these?

218 Central Avenue.

Exposed Others to Small-Pox.—Dr. M. J. Rodermund of Appleton has a theory that smallpox is not contagious. He tried to show the correctness of his theory last week and is said to have deliberately exposed half the town after smearing himself with poisonous pus taken from the face of a patient.

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SOME TOPOGRAPHICAL AND CLIMATIC FEATURES OF THE FLORIDA PENINSULA; WITH SPECIAL REFERENCE TO ITS ADAPTIVENESS AS A WINTER HEALTH RESORT.

BY JAMES K. CROOK, A.M., M.D.,
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THE State of Florida extends from 24° 30′ to 31° N. latitude and from 80° to 87°, 45′ W. longitude. It has a coast line of 472 miles on the Atlantic Ocean and 674 miles on the Gulf of Mexico, and an average breadth of about 90 miles. Topographically the State is often described in encyclopedias and geographical works as being flat and uninteresting, or as made up of a succession of miasmatic swamps, lakes, and savannas. While by no means of a rugged character, the surface is far from being a dead level. It may more properly be described as forming the top of a submarine mountain chain, rising gradually, as it does, from both coasts to an altitude near the center of from 100 to 300 feet. The ledge forming the backbone of the peninsula is composed of the Eocene limestone, known as the Vicksburg. This formation persists from the northern limit of the State to Cape Sable, and forms the bed of all the lakes and rivers except the salt water bodies composing the east coast lagoon, extending from Pablo Beach to Cape Sable. This limestone base persists to the Gulf coast on the west side and outcrops into Tampa Bay. The great coquina ledge of Florida, probably of post-Pliocene origin; extends along the east coast from Pablo Beach to Cape Florida. The interior elevated ridge or backbone traverses the peninsula down to about the 27th parallel of latitude, the apex of the divide being perhaps one-third nearer the Gulf coast than the Atlantic. The surface of the water-shed and its western slope is generally undulating and occasionally hilly, in some sections being much broken by lakes and small elevations known as sand-hills. Along the east coast and in the St. John's River region the character of the surface is usually level. The soil, as a rule, is sandy and very porous in the hilly sections, but firmer and more compact along the level reaches. A striking feature of the surface is the immense tract lying south of Lake Okeechobee, known as the Everglades. This great morass or swamp is 160 miles in length and 60 miles in breadth, its depth varying from one to six feet. During the wet season from June to October it is impassable. The presence of this big marsh, which is always made prominent in works descriptive of Florida, has no doubt acted to the prejudice of the State as a resort for invalids. It should be borne in mind that the Everglades, though very extensive and decidedly unattractive as a near neighbor, are located far down the peninsula, below the 27th parallel and remote from the customary haunts of the tourist and the health-seeker. At some future day the enterprise and ingenuity of man will be turned upon this desolate wilderness and it will be made to blossom as the rose.

The rivers of Florida are numerous and some of them afford excellent facilities for internal navigation. The most important of these is the St. John's which rises in the great southern morass just mentioned and reaches the ocean after a northerly course of more than 300 miles. The river traverses many romantic and picturesque lakes in its route, and with its tributaries affords a navigable stretch of more than 1000 miles. The Florida rivers are supplied both by the numerous lakes and savannas, where rain-water collects, and by subterranean springs, many of which afford immense volumes of water of crystal purity and clearness. The greater part of the State is still covered with vast forests of pine, magnolia, laurel, live- and water-oak, and other valuable timber.

Florida possesses a climate which is properly described as one of the most genial and equable on the continent. Occupying, as it does, a situation between the temperate and tropical regions, it enjoys exemption in a great measure from the frosts and sudden changes of the one, and the continuous, debilitating heat of the other. Owing to the conformation of the State, being an elongated and somewhat narrow peninsula, the climate is materially influenced by the sea-breezes which sweep over the surface from the two vast bodies of salt-water which it divides. It may be characterized as a marine, in contradistinction to a continental climate. Two important climatic features are prominent, viz., pronounced equability and almost uniform mildness. It is questionable whether the proximity of the Gulf Stream to the peninsula modifies the temperature as much as has been supposed. The United States coast surveys have established the fact that the deep Arctic currents in flowing south shoal up on the east coast of the peninsula inside of the Gulf Stream. As a natural result the superjacent atmosphere is deprived of any small modicum of increased temperature gained from the latter current in these latitudes by the time it reaches the coast.

The mean annual temperature varies from 69° F. at Sanford to 68° F. at St. Augustine. For the winter months the temperature ranges from 54.6° F. at Pensacola to 66.5° F. at Jupiter. The average yearly rainfall varies from 53.19 at Pensacola to 57.16 at Cedar Keys, while the mean annual relative humidity ranges from 76 per cent. at Pensacola to 80 per cent. at Cedar Keys. According to General Greeley's estimate, based on ten years of observation, from 1876 to 1886, the absolute humidity for the northern part of the State for the month of January was 3 grains of water per cubic foot of air; for the base of the neck of the peninsula, 4 grains per cubic foot; along the 28th parallel of latitude, 5 grains per cubic foot, and at Key West, 6 grains per cubic foot. The amount of absolute humidity for the entire State for the month of July was 9 grains per cubic foot. It will thus be seen that, while the climate of Florida can by no means be properly characterized as dry, it is not, on the other hand, excessively humid. The annual mean relative humidity of the State of New York is 75 per cent. What may be termed the "dry season" in Florida occurs during the winter, the summer and early

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autumn months affording by far the greater amount of precipitation. As a rule the first approach of the dry season is made in October and from the minimum precipitation which takes place in November; there is a partial resumption of rains apparent in midwinter, to be followed by two or three months of diminished rainfall.

According to data furnished to the writer by Dr. Murray W. Seagears of St. Augustine the average monthly precipitation at that point in inches and tenths of inches is as follows: January, 3.0; February, 3.0; March, 2.9; April, 2.0; May, 4.4; June, 4.9; July, 6.0; August, 5.0; September, 7.4; October, 4.1; November, 3.2; and December, 2.5.

The weather, however, cannot be relied upon implicitly. Blodgett pointed out many years ago the great irregularity of the winter rainfall on the peninsula for different years. One season is no reliable guide for another, and we must take the average for a number of years to reach an approximately correct figure. The equability of the Florida winters is occasionally interrupted for a day or two, possibly for several days, by a north or northwest wind of a cold, dry character, known as the anti-cyclone and resulting from abnormal distribution of atmospheric pressure. Its approach is signaled by a drop of from 10° to 30° F. in twenty-four hours. This wind finds its analogues in the *mistral* of the French Riviera, the northeast *gregale* of Malta, the northerly *transmontana* of the Adriatic, and the *bora* of Trieste and Dalmatia. South of the 29th parallel these atmospheric disturbances lose much of their force and are hardly to be regarded as a serious drawback.

Heavy dews are also a prominent feature on clear, still nights. and fogs are not infrequent, especially along the Atlantic coast and St. John's River district. These have been attributed to the level character of the section, to the presence of large bodies of comparatively still fresh water, and to the winds from the Gulf Stream, warmed and vapor-laden, coming in contact with the strip of colder water between the latter and the coast.

Residents of Florida are also at long intervals treated to sudden and unexpected cold snaps which set the weather-prophets in a pother. It is said that during the anti-cyclone of 1835 the temperature at St. Augustine dropped to 7° F. Notable cold waves of late years occurred in 1886 and 1897 when the frost-line was forced many leagues south of its usual habitat, causing wide-spread amazement to the old inhabitants and great injury to the orange industry.

This enumeration quite completes the list of objections to the Florida winter weather. The tourist or health-seeker from the North, in search of sunny skies and a soft, genial atmosphere, will hardly fail to find them here in abundance, and the days when he is kept indoors by atmospheric conditions cut but a small figure in the bright and cheery vista from the late autumn to the early spring. Nor must it be taken for granted that the period of summer is unendurable in the peninsula. Many of the new and attractive towns in the Florida uplands, notably in Orange and adjacent counties, have large numbers of permanent northern residents who have chosen to make their homes here all the year round. The summers are undoubtedly long and warm, but the reports of the weather bureau show that many points along our northern frontier present higher thermometric ranges during July and August than are observed at Winter Park, Ormond, and other localities along the lake plateau. With the Atlantic on the east and the Gulf on the west and south, the temperature of the peninsula is appreciably modified by the seabreezes which, by favoring evaporation, convert much of the sensible into latent heat, producing an undoubted cooling or refrigerating effect and, at the same time, serving to eliminate much of the normal humidity of the air.

Malarial fevers unquestionably prevail in certain marshy districts of the State, and their presence has acted as a detriment to the fair fame of the entire peninsula as a resort for health-seekers. When carefully sifted, however, it will be found that the reports concerning these disorders contain but few grains of actual fact. It would appear that many sections of the State have always been free from this scourge, and in others, where it has been wont to flourish, it is apparently declining, both in frequency and severity, the old-fashioned algid and congestive types having practically disappeared. The writer is informed by Dr. Seagears, of the Alcazar Hotel that the recurrent chills observed among native Floridians about St. Augustine, which are invariably diagnosticated as malarial in character, fail to show the presence of the specific plasmodium on microscopical examination. He states that the topographical and soil conditions about St. Augustine are distinctly antagonistic to the propagation of malaria. The medical statistics of the United States Army show that the ratio of deaths from remittent fever has been less among troops stationed in Florida than in any other section of the country. If the writer may cite his own experience in this connection, he would say that of the not inconsiderable number of his own patients whom he has had occasion to refer to the peninsula during the last fifteen or twenty years not one has ever contracted any form of malarial disorder. The decline of these affections is doubtless due to improved drainage in a few localities, although some physicians attribute it to the increased cultivation of orange-trees. Tomasi Crudeli, in his address before the Copenhagen Medical Congress, pointed out that the cultivation of the orange and other members of the citrus family had apparently been influential in the elimination of malaria in certain districts in Southern Italy and Northern Africa.[1]

The writer is informed by physicians in different sections of the State that diphtheria is practically unknown, while such exanthemata as measles and scarlet fever are exceedingly mild in their manifestations. These statements appear to be con-

[1] According to my friend, Dr. Manges, Italian physicians have long believed in the virtue of lemon juice as an adjuvant to quinine in the treatment of malaria.

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firmed by mortality statistics. According to the United States Census returns for 1890, the latest at hand, the annual mortality-rate of the State for all diseases was 10.50 per 1000 of population. It may be interesting to notice in this connection the death-rate in several other States. As computed from the National Census Report of 1890 they are as follows: California, 14.65 per 1000 of inhabitants; Colorado, 13.23; Illinois, 13.88; Kentucky, 12.85; Maine, 15.19; Massachusetts, 20.15; Minnesota, 11.89; New Hampshire, 18.79; New Mexico, 16.24; New York, 20.53; North Carolina, 11.23; Pennsylvania, 13.98; Tennessee, 13.49; Texas, 11.84; Virginia, 14.03; and Wisconsin, 11.06 per 1000 of population.

Perhaps the most important consideration in this connection relates to the advantages of the climate of Florida as a resort for persons threatened with, or affected by pulmonary tuberculosis. Is the peninsula a proper region to which to refer such persons for the winter months? Let us again consult the mortality statistics of the National Census Bureau, those of 1890 being again chosen as the latest accessible. The death-rate from consumption for that year for the States above cited was as follows: California, 2.39 per 1000 of population; Colorado, 1.18; Illinois, 1.49; Kentucky, 1.90; Maine, 2.23; Massachusetts, 2.67; Minnesota, 1.17; New Hampshire, 1.93; New Mexico, 0.63; New York, 2.47; Pennsylvania, 1.46; Tennessee, 2.06; Texas, 0.92; Virginia, 1.84; and Wisconsin, 1.19. The phthisical death-rate for Florida was 0.96 per 1000 of population, or less than that of any other State excepting Texas and New Mexico and several of the new and thinly-settled States of the far Northwest. It will thus be seen that the conditions prevailing on the peninsula are not favorable to the development and spread of consumption. Deducting the small, but constant number of invalids from other States who die there every year, it is altogether probable that Florida would show a smaller mortality-rate from this cause than any of her sisters in the Union.

In his work on bacillary phthisis, Germain Sée divides the climates suitable for the treatment of consumption into three great classes, viz., (1) warm maritime climates; (2) high altitude climates; and (3) the climate of warm, low countries not maritime. He regards the first two as including all that is essential in the climatic treatment of phthisis. Without in any way decrying the value of certain elevated regions in consumption, it is the writer's opinion that the conditions in Florida embody all the advantages of warm maritime climates. As before mentioned these consist chiefly of mildness and steadiness, to which may be added an abundance of light and ozone and, in most localities, freedom from dust. It is further possible, as Germain Sée suggests, that the increased oxygen of low levels is unfavorable to the biological necessities of the bacillus and tends to abridge its activity.

According to Dr. J. C. Wilson, of Philadelphia, the peninsula presents four distinct strips of territory which differ from each other quite materially, climatically speaking. They are as follows: (1) The Atlantic seaboard; (2) the St. John's River region; (3) the elevated pine-lands forming the water-shed of the State, and (4) the Gulf coast. He favors the pine regions of the interior and the Gulf coast, as being comparatively free from the sudden changes of the east coast and from the enervating influences and possibilities of malaria of the St. John's River resorts.

After much careful study of this subject the present writer is of the opinion that the climatic variations in different sections of Florida are determined, not by meridians of longitude, but by parallels of latitude. Traversing the peninsula from east to west on any given line in what may be termed the health-resort belt between the 27th and 31st parallels, one finds but a slight departure from the general characteristics above outlined. There are, to be sure, a few malarial spots of which to be wary, and some resorts are undoubtedly much better off in the way of hotels, scenic attractions, etc., than others. There is, as Keating points out, no well-defined frost-line, but the 29th parallel marks as nearly as possible the boundary between the region of damaging frosts and that where frosts are too light to injure orange-, lemon- or lime-trees.

A most important consideration for the medical practitioner relates to the class of cases to be referred to Florida for climatic treatment. We can never predict with positiveness how any individual case will progress after the patient reaches the peninsula. Many persons go there every year on their own responsibility and often to their own detriment and to that of the standing of the region as a health resort. In the absence of positive statistical evidence bearing upon the subject of climatotherapy, we are obliged to depend to a great extent upon the general observations of physicians and of their patients. It is the writer's opinion, based upon experience gleaned from his own patients and those of other physicians, as well as from a careful study of the literature relating to the subject, that the following classes of persons may properly be referred to Florida for the winter months:

1. Cases of recurring bronchitis or winter cough. These patients enjoy fairly good health during the summer months, but with the advent of the first raw days of the Fall they begin to have bronchial irritation, attended as a rule by a dry, irritable cough and occasional paroxysms of wheezing and dyspnea. These cases are not phthisical, but they are liable to develop more or less pulmonary emphysema with the progress of two or three winters, to the permanent impairment of their respiratory capacity. They are but slightly amenable to drug treatment. A sojourn of two or three months in Florida during the depth of the northern winter usually results in material improvement, often in a permanent removal of the *materies morbi*.

2. A large and important class of cases, hereditary or otherwise, in which there is reason to ap-

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prehend the development of tuberculosis, even though no actual signs of the disease have set in.

3. A majority of cases of early phthisis prior to the formation of cavities. Patients showing great debility or a severe degree of anemia should not be sent to a southern climate, nor should those in whom acute manifestations are present. As in other localities nearer home, cases in which the well-known symptoms of pulmonary tuberculosis have become prominent are not welcomed everywhere on the peninsula, but the writer knows of no patient who has failed to find comfortable quarters.

4. Cases of so-called fibrous phthisis or chronic interstitial pneumonia. This form of pulmonary trouble progresses very slowly and is liable to extend over a long period of years. It is not cured by the climate of Florida, but almost without exception patients receive great benefit from a sojourn of several months in that region.

5. There is a very large valetudinarian class, composed of old rheumatics, victims of subacute or chronic gout, asthmatics, and intractable cases of chronic rhinitis, pharyngitis, laryngitis, lumbago, neurasthenia, general debility, etc., who are vastly improved by a season amid the sunshine and flowers of the beautiful peninsula.

During recent years the hand of man has done much to improve and develop the great natural resources of Florida. Magnificent vestibuled express trains and safe and elegant steamers convey the northern visitor from New York to the peninsula in from thirty hours to three days. A network of well-constructed and well-managed railroads within the State limits have made all desirable sections easily accessible and have led to the development of hitherto relatively-unknown and unfrequented districts. The visitor will find a chain of palatial hotels along both the Atlantic and Gulf seaboards, while in all sections of the State numerous excellent smaller hotels and boarding-houses are at hand for those who wish to live less expensively. In many localities golfing may be indulged in, while cycling is practicable almost everywhere. Boating, bathing, fishing and shooting also add their attractions in many quarters of the peninsula. Some detailed facts relating to individual localities in Florida will be given in a subsequent article.

In the foregoing contribution the author has been aided by the writings of Blodgette, Crudeli, Eager, Keating, Sée, Solly, Wall and Wilson, and by personal communications from physicians in the State of Florida.

783 Madison Avenue.

THE CLIMATOLOGY OF NEURASTHENIA.[1]

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A MORE accurate knowledge than at present exists of the effect of climate upon the health of people in general, such a knowledge as may be gained from a conscientious study of the statistics of health of a locality, of death-rate, longevity, physique, capacity to rear a generous progeny, etc., is extremely desirable. Such a knowledge would enable the physician to substitute for his present vague, "Go west," or "Be off to the woods," a definite statement of the meteorological conditions required by the case and of the existence of those conditions at some given spot, thus sending his patient off with a cheering and authoritative assurance of benefit to be confirmed by subsequent events, instead of submitting him, in a state of mental doubt and confusion, to climatic conditions which may after all be unsuited to his case and may therefore bring him back with bodily health unimproved, spirits depressed and pocket-book depleted. As a slight contribution toward the desired result, I purpose in this paper to discuss the climatic guarding of a special disease, neurasthenia.

In a lecture given before the Alumnæ of Nurses of the Presbyterian Hospital of Philadelphia, entitled "The Nurse in Travel, etc."[2] I endeavored to point out localities desirable to visit in moving about with a nervous invalid or convalescent, and the information conveyed in that lecture, although of a general character has proved of practical advantage to several members of the class addressed.

I shall present to-day more particularly data gained largely from personal observation in this disease. In the first place, I wish it to be understood that I consider neurasthenia essentially a nutritional malady of the central nervous system and believe that, while for successful treatment of it we must look back to the heredity, to both predisposing and exciting causes, which we need not rehearse here, we must seek in the therapeusis to eliminate *all* etiological factors. After all this very necessary detail is dealt with carefully, the treatment of the serious disorder in question must be put upon a nutritional basis. A study of the uric-acid elimination[3] by the kidneys extending over a half dozen years proves this basis beyond doubt to my mind.

The diagnosis must be made between hysteria *per se* and neurasthenia or the latter with a hysterical complication. It must be conceded that the hybrid case is more difficult to direct for the recovery of the patient than is any other neural disease. In well-established neurasthenia *per se* the partial or complete rest-cure alone will win out promptly. Upon how much of hysteria there is in the case and upon the physical condition of the patient should depend resort to other therapeutic measures, suggestion paramount among them.

It is in dealing with convalescents from neurasthenia, with incipient cases, or with those in danger of a recurrence, that the climatology of neurasthenia is especially important.

To speak generally, there are two extremes to be avoided by the neurasthenic invalid, namely,

[1] Read at the fiftieth annual meeting of the Medical Society of the State of Pennsylvania, Wilkes-Barre, Sept. 30, 1900.

[2] Trained Nurse and Hospital Review, April, 1899.

[3] American Journal of Insanity, Vol. LVII., No. 1, 1900. "Further Laboratory Studies on Uric Acid in Neurasthenia and on Autointoxication in Nervous Disease."

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a low, windy, treeless country and one characterized by constantly quiet atmosphere, high altitude (above 2000 feet), with low atmospheric pressure. An illustration of the former condition is found at Portland, Oregon, where I found neurasthenia very prevalent. In the higher parts of Southern California and New Mexico, on the other hand, the opposite extreme exists, and sufferers from "nervousness" frequently have to leave the country for a time in order to obtain relief. One of my own patients, a woman of culture and of strong physique, but neurasthenic from prolonged nursing of a case of phthisis in her husband, suffered constant relapses until she left California, whither she had gone for the sake of her husband's health. An outing at Buzzard's Bay, Mass., last summer, has quite restored her to health. The injunction I make in her case for remaining nervously well, is to sell out her ranch in the West and come to a lower country of more flora, of gentler breezes carrying a semisaturation of salt air so stimulating to metabolism and nourishment of the central nervous system.

The suitability of any given district, whether furnishing sea or mountain air, for the treatment of nervous exhaustion states, depends then upon altitude, that is, barometric pressure, upon the character, temperature and evenness of prevailing winds, upon the nature of the subsoil, gravelly loam being most desirable, upon abundance of sunshine, and, finally, in a lesser but still important degree, upon idiosyncrasy.

Boston is not a suitable locality for neurasthenics, and yet I know a neurasthenic man who was made worse by going from there to the Adirondacks at an altitude of 2000 feet in a very damp part of that wilderness. He was advised by me to seek the "mean" and recovered. Another man, an overworked publisher of New York, aged fifty-two years, having sought health in many parts of the country, went into camp in the Adirondacks where I saw him in September, 1898. The camp was located at an altitude of 1500 feet on a beautiful pond, surrounded by the second growth of trees and much bush which latter held the heavy dews until late in the morning. In all other respects this camp was ideal for a summer outing; but it was bad for a neurasthenic for the reasons already given. At the end of ten days, this man began to have "mental restlessness"; the pressure in his head "grew alarming to him"; he could stand no exertion whatever. He was not hysterical. Palpitation of the heart soon followed, with, at the end of a fortnight, well-established and persistent insomnia. I advised his going down to well-protected Watch Hill, Rhode Island. Upon doing so he reported immediate improvement and since then has gone to this delightful coast line to the recovery of full health.

With the lowered barometric pressure at Anaconda, Montana (altitude 5000 ft.), Dr. James F. Spillman of that place informs me that there is prevalent much neurasthenia, and that general nervousness complicates many diseases he has to treat.

In neurasthenia, localities where heavy storms are prevalent are to be avoided, if possible. Such storms in the temperate zone of the United States are, as a rule, due to the movement of northerly winds from the lake region overrunning the Hudson valley toward the Atlantic seaboard at some particular locality, as in the very severe storm we experienced on August 3d last, and which spread from Maine to Virginia. It is said that thunder storms are unknown at Bath, Georgia. Further study of the effect of such a locality upon neurasthenics should be made.

The Maine country about Rangeley Lakes is almost ideal for neurasthenic patients, having an altitude of 600 to 1000 feet, with a rare combination of sea-(salt-) and pine-(ozone-) laden atmosphere conjoined with plenty of sunshine, all mildly stimulating meteorological conditions. Next in order in America I should place the inland country of New Brunswick and of Nova Scotia, away from the fogs of the coast. Third in order comes that delightful, gravelly and stony country in the United States and Canada, the Great Lake region of Ontario, Wisconsin and Michigan, stretching east to the beautiful group of the Muskoka Lakes and about Lakes Simcoe and Nippissing.

I give herewith a table of altitudes of some places near at hand where it is desirable to send the neurasthenic convalescent.

TABLE OF ALTITUDES.

Locality.	Altitude.
1. Blue Mountain Lake, Adirondacks	2000 feet
2. Lake Massawepie, Adirondacks	1400 "
3. Schroon Lake, Adirondacks	830 "
4. Lake Chautauqua, New York	2191 "
5. Lake Canandaigua, New York	688 "
6. Great Lakes	500 to 680 "
7. Lake George	310 "
8. District about Rangeley Lakes, Maine	800 to 1000 "
9. Lake Hopatcong, New Jersey	926 "
10. Harvey's Lake, Pennsylvania (the largest body of fresh water in that State)	1250 "

I close with a brief summary of the conclusions reached in this paper.

It is almost axiomatic that an altitude of over 2000 feet is unsuitable for the neurasthenically-disposed or convalescent patient. Any very "stimulating" climate should be avoided. Other conditions to be avoided are as follows: Districts menaced by high winds and frequent fogs; cloudy, saturated atmospheres with but slight movements of air-currents; low country (sea level) with continuous, non-varying, although moderate heat, as where the effects of the Gulf Stream is strongly felt. Thus the Bermuda Islands and Florida are enervating localities.

Ideal conditions for the neurasthenic include sea-air in a well-wooded country, far enough from the coast to avoid its fogs. A sea-voyage is, as a rule, an excellent preliminary to other climatic measures. Provided the voyage is not stormy it acts both psychically and physically in soothing the nervous system.

In order to obtain the full benefit of correct climatic conditions the patient must have good food. Without this important adjunct the desirable climatic change may be entirely defeated in its effect on the patient.

1407 Locust Street.

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THE TONSILS AS PORTALS OF INFECTION.*

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WALDEYER'S tonsilar ring consists of (1) the pharyngeal or Luschka's tonsil, (2) the tubal tonsils or cushions of the Eustachian tube, (3) the faucial or true tonsil, and (4) the glossic tonsil. These structures belong to the lymphatic apparatus and have been compared to Peyer's patches in the intestinal tract. The faucial tonsils are oval-shaped nodes the size of hazel-nuts. In health they should be barely seen. Each tonsil is imbedded in faucial peritonsillar tissue. On the surface are from eight to eighteen openings, the entrance of crypts (lacunar spaces). The crypts are lined with mucous membrane and are apt to become filled with a thick, yellowish secretion (fat molecules, loosened epithelium, lymph-corpuscles, granular matter, cholesterin crystals, etc.).

The pharyngeal tonsils differ from the tonsillar tissue in that they have no crypts, but an abundance of irregular spaces between them in which dirt and discharges are held (Dawbarn).[1]

The tonsils have a very large blood-supply and the lymph-sinuses communicate freely with the lymphatics of the mouth, pharynx and deep cervical lymph-nodes (Ashby & Wright).[2]

One of the functions of the tonsils is the formation of leucocytes, which, according to Stöhr[3], find their way into the salivary secretion by an amœboid movement. Kingston Fox[4] says that the tonsils have an absorbing function, *i. e.*, the absorption of a superabundance of saliva. It is also claimed that they produce a secretion which lubricates the food, but, containing no mucous glands, they do not secrete in the sense of glandular secretion, and Hodenpyl[5] relegates this secretory function to the adjacent tissue and not to the tonsil itself.

Killian[6] believes that the contained leucocytes have the power to destroy micro-organisms. Labbe[7] also thinks that the follicles by an extension of the epithelial surfaces are a means of defence against bacterial infection, but Goodale[8] has lately claimed that the leucocytes present are of the mononuclear variety. The lymphocytes are not phagocytes and cannot therefore be regarded in this light. Goodale also claims that absorption exists in the tonsil and takes place through the mucosa of the crypts, whereas Hodenpyl in a series of experiments maintains that the epithelium of the crypts prevents absorption, but that substances finding their way beneath the epithelium may be taken up rapidly by the lymphatics, and this he explains frequently to be the case on account of the very thin layers of epithelium and its constant rarefaction. He also showed that soluble and insoluble materials in the substance of the tonsil remain in the tissue or are carried by the lymphatics to the other parts of the body.

As to the capability of the absorption of micro-organisms by the tonsil, Ribbert[9] found that the bacillus of diphtheria in rabbits is not absorbed by the buccal mucous membrane except in the tonsils in which the epithelium is desquamated. Schlenker,[10] having found cases of tuberculosis of cervical nodes in which the tonsils either were or were not diseased, states that in the latter case the tubercle bacilli must have wandered through the tonsil. Buschke[11] also concludes that the tonsils are portals for pus-producing organisms. They do not enter the system without affecting the tonsils, be it ever so lightly, so that Pluder[12] contends that tonsillar protection to the invasion of disease is very small, as the tonsils are frequently diseased and hence portals for the entrance of bacteria. Schech[13] also makes the statement that in the adult the tonsil is seldom normal.

From the foregoing remarks it is seen that the function of the healthy tonsil is but little understood. Certain it is that, being of the lymphatic system, they have to do with the formation of leucocytes of a mononuclear variety and that these leucocytes have little phagocytic action.

The tonsils may protect the system by a filtration of micro-organisms and an attenuation of their virulence, thereby giving a certain amount of immunity in health. They are, however, very susceptible to the invasion of bacteria and to infection. Because of their position the various forms of aërial poisons are prone to be aspirated and to lodge here; food substances, with their poisons, bacteria, etc., may also find lodgment coming in contact during the deglutition act. The tonsils afford places of lodgment because of their irregularity of contour, the presence of lacunar spaces, the rarefaction of the epithelium lining the crypts (Hodenpyl) and the exudation of the epithelium which leave places of denudation and afford the *locus minoris resistentiae* to the various organisms. The tonsils are therefore constantly exposed to pathogenic organisms contained in liquid, air and food. They are also exposed to the bacteria constantly to be found in the nasal and buccal cavities; as occurring in the nose, Eisenberg[14] mentions staphylococcus pyogenes aureus, streptococcus erysipelatus, bacillus foetidus ozaenæ, Friedlander's pneumobacillus, rhinoscleroma bacillus, bacillus mallei and bacillus smaragdinus foetidus; the same author mentions in buccal secretion pyogenic bacteria, diplococcus pneumoniæ, diphtheria bacillus, tubercle bacillus, and many pyogenic organisms in and about the teeth, as described by Miller, such as bacterium gingivæ pyogenes, bacillus dentalis viridans, also fungi-like actinomycosis and aspergillus fumigatus. These bacteria require heat, moisture and a good soil for their growth. They obtain the two former conditions and so far as soil or proper media is concerned, it requires but a loss in the immunity of the individual or host to make active the pathogenic organisms always present and to induce infection.

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Having shown that the tonsils are easily accessible to micro-organisms and that they are constantly exposed to their action, it requires the clinical proof that such takes place.

The tonsil, especially the faucial tonsil, often becomes inflamed through the agent of pyogenic organisms, lodging in the lacunar spaces. The epithelium of the mucosa, because of the engorgement of the vessels, is deprived of its nutrition and exposed to the poisonous substances produced by the organisms; it becomes swollen, clouded and dies; in other words, is converted into pus. As a consequence of this metabolic change and the secretion of the bacteria, toxic substances are formed which, being absorbed, produce constitutional symptoms, namely, malaise, headache, bone-ache, chills, elevation of temperature, bounding and frequent pulse, etc.

Among the organisms demonstrated in the lacunæ in tonsillitis are the streptococci, staphylococci albus and aureus, Fraenkel's pneumococcus and Friedlander's pneumobacillus.

As to the predisposition for an attack of tonsillitis may be mentioned the relation existing between the hyperplasia of either the lingual or pharyngeal tonsil in young children. The adenoids through their obstruction induce mouth-breathing and a lowering of the vital resistance, rendering an assault of bacteria the more successful. There is a constant aspiration of pathogenic bacteria to the faucial tonsil and the individual is more susceptible because of a lowering of vital resistance.

One attack of tonsillitis predisposes to another and, as a result, the crypts are deeper, the fibrous tissue and lymphoid tissue are increased, and the vessel-walls are sclerosed. Depending on the increase of fibrous tissue will depend whether or not the hypertrophied tonsil is hard or soft. It is this tonsil which is *par excellence* the principal portal for infection for here we have lost in the normal function, and the parts are dry, the lacunar spaces widely open and filled with bacteria, and the antigermicidal secretion of the lymphoid cells, if any, is *nil.* But it is nevertheless not my intention to state this without some qualification, for in many cases of infection via the tonsils, they are apparently little affected.

Jessen[15] emphasizes the fact that a tonsil with normal appearance may contain foci of suppuration. Many cases are reported which show severe infection following an attack of tonsillitis. This infection may be classified into (1) a toxemia, as diphtheria; (2) a septicemia, and (3) a septicopyemia. The involvement of the faucial tonsil in a great majority of cases in diphtheria and its toxic effects (paralysis of muscles of deglutition and heart) need not be emphasized in this paper.

If the organisms producing a tonsillitis are pyogenic and enter the tissue a simple lacunar tonsillitis becomes septic by the formation of a tonsillar abscess or the adjacent peritonsillar tissue is affected by contiguity with the formation of a peritonsillar abscess, Ludwig's angina or a retropharyngeal abscess. In this process the cervical lymph-nodes are also affected and many constitutional complications, pyemic in character, may follow which are severe and often fatal.

Spaet[16] describes two fatal cases of general septicopyemia in which he thinks the port of entrance to have been a catarrhal affection of the tonsil. Treitel[17] speaks of the importance of tonsillar abscess as a port of entry of general sepsis. Jessen[15] reports four very interesting cases of sepsis following tonsillitis. (1) Man with exudation on the tonsils followed by constitutional symptoms, pain in extremities, stupor followed by an erythematous eruption, the erythema and pains in joints disappearing in eight days with an irregular fever-curve. Pure cultures of staphylococci and streptococci were obtained from the tonsils, but none in the blood. (2) Woman who came to hospital in a comatose condition and died from uremic convulsions. The autopsy showed the superficial tonsil smooth, but on section many abscesses were found. The kidneys were filled with hemorrhagic areas and abscesses. (3) Chlorotic girl with angina of left tonsil from which pure culture of streptococci were obtained. The angina was followed in twelve days by a wandering pneumonia (only streptococci in sputum, no pneumococci or influenza bacilli), then by a pericarditis, pleuritis and nephritic irritation evidenced by the presence of albumin and casts in the urine. (4) Girl with angina followed by a pericarditis, double pneumonia and general sepsis. Author recovered postmortem the same organisms obtained in culture from the tonsil in all the organs. In this case the tonsil superficially showed little or nothing, but on section pus was found.

Du Mesnil de Rochemont[18] describes an epidemic of angina in a hospital in Altona, thereby demonstrating the contagiousness of ordinary angina. There were 18 cases out of 67 patients, or 23 per cent., affected. In the following two months, 19 were added. The angina varied from a catarrhal-follicular form to a gangrenous exudate and swelling of the peritonsillar tissue. Streptococci and staphylococci were found in culture. As complications the author noted acute articular rheumatism three times and once each nephritis, pericarditis, endocarditis and myocardial weakness. Dr. William Bergtold, of Denver, Colorado, in a personal communication, has described to me an epidemic of sore throats occurring in Denver in November, 1898. He believes there must have been a very large number of cases (20,000). The disease was very contagious. There was only a slight sore throat, the pharynx and tonsil had a purplish-blue look, almost edematous, with, in some cases, an occasional patch of membrane. The symptoms were much those of influenza. Dr. Bergtold in the cases examined by him obtained streptococci. In one case observed by him (Dr. Joslyn) there were two relapses, in the last of which the patient developed a bronchopneumonia, pericarditis, ulcerative endocarditis and died. He believes there were many other cases of sepsis due to the angina which, unfortunately, are not reported.

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Hiddeaus[19] reports a case of tonsillitis due to staphylococci pyogenes aureus followed by a pleuritis in the exudate of which he found the same organisms. Hanot[20] also reports pleuritis following streptococci angina, as does Richardière.[21] Heinze[22] in 1261 cases of angina examined by him at the Leipzig clinic found 38 cases of nephritis, some of which were protracted and one of which died.

Fraenkel[23] records ten cases of leucemia, the course of each seeming to point to an infection and the early involvement of the cervical lymphatics suggesting an invasion from the pharynx or tonsils. F. G. Wood[24] in a report of cases of Hodgkin's disease, states that in one case observed by him the infective agent gained entrance through the tonsil.

Thomas[25] reports the case of a child, seventeen months of age, attacked with tonsillitis sinistra, swelling of cervical and submaxillary glands. On the third day otitis media of left side developed, then retropharyngeal abscess of right side with pharyngitis and acute suppuration of nares and nasopharynx, then a erythema scarlatinoid, enteritis, pneumonic infarcts. On the forty-first day of disease the child died of meningitis. Cultures from the pus of the ear showed streptococci and staphylococci pyogenes aureus. The author regarded the disease as a streptococcus infection.

Simonini[26] records an epidemic of five cases of infantile paralysis; as to its origin he believes it related to rheumatism and hence to tonsillitis. Packard[27] says that angina may be the cause of many unexplained systemic cord diseases. K. Dehio[28] reports a septic maculopapular erythema following follicular tonsillitis.

Through the courtesy of Dr. Grover Wende I saw a case of giant urticaria following an ulcerative tonsillitis in both tonsils. The case simulated somewhat scarlatina with angina. Cultures of streptococci were obtained from the tonsils. This case rather conforms to the later theory of urticaria which speaks of it as due to toxic substances in the blood. Cases of urticaria following tonsillitis are described by Rosenthal,[29] Boeck,[30] and others. Bull[31] described purpura following tonsillitis. F. A. Packard[32] reported five cases of endocarditis which were preceded by an attack of tonsillitis, in three of which it was definitely known that the heart was normal before the attack of angina. In the other two cases the previous condition of the heart was not known from personal observation, but there was nothing in the past history referable to the heart.

Emil Mayer[33] also relates the case of a man in whom the diagnosis was made of an endocarditis following tonsillar infection. Endocarditis frequently follows many of the infections and contagious diseases. It is an early complication of sepsis in which it may occur as a simple or ulcerative form. It follows or accompanies acute articular rheumatism in 60 to 70 per cent. of cases.

It has been shown in cases cited above that sepsis may be produced through the tonsil. So far as concerns the exanthemata, it is well known that a majority of them have an early angina, witness the severe throat lesions in scarlet fever, so difficult to differentiate from a true diphtheria. Abbott[34] although he says it is not generally accepted, states "that the clinical manifestations of the disease (scarlet fever), as well as the anatomical lesions, except those in the throat, are the result of the absorption of toxins, produced by the streptococci located in the diseased tonsils."

Class[35] described a diplococcus scarlatinæ as a cause of scarlet fever and gives a synopsis of 300 cases, showing the presence of this organism in the throats; Gradwohl[36] in seven cases confirms Class's findings and speaks of the contagiousness of inoculated mice to others not so inoculated in the same cage. Baginsky and Sommerfeld[37] from a study of 42 cases of scarlet fever obtained, in the angina, pure cultures of streptococci sometimes accompanied by other cocci and in all fatal cases (42) examined by them the organisms were found in the blood and bone marrow, from which they conclude that the streptococcus is constant in scarlet fever.

Class,[38] in a later contribution, differs from the above-named authors in the morphology of the organism, claiming that it is a diplococcus and not a streptococcus. He speaks for priority in discovering it and shows that the organism is constantly present in scarlet fever, that it is a pathological organism for mice, swine and guinea-pigs, that scarlet fever can be produced in the white swine by the diplococcus, that the pathological changes in the organs caused by the diplococcus scarlatinæ resemble those of scarlet fever, that the disease produced is of a contagious character, that the influence of the blood of a scarlet-fever patient on plate-culture inhibited its growth, and that the organism was found in the throat secretions of scarlet-fever patients. The author's claims accord to Koch's law, but further cumulative and confirmatory evidence can only give to this organism its place as the specific organism of this disease. One proof of the tonsillar affection in this disease, as in diphtheria, is the common early involvement of the cervical lymph-nodes.

Trousseau[39] in his writings speaks of rheumatism as being ushered in by a sore throat. Buss[40] emphasizes the relation between angina and acute articular rheumatism. The examinations showed the same micro-organisms for both, namely, pyogenic cocci, and he concludes that in many cases the port of entry for rheumatism is in the tonsils. Sterling[41] also reports five cases of follicular or catarrhal tonsillitis immediately followed by acute articular rheumatism and draws the same conclusions as does Buss.

G. Bloch[42] discusses the etiology of rheumatism from a clinical standpoint, *i. e.*, the relation existing between angina and rheumatism. It may follow any form of angina from a light catarrhal to a deeply lacunar, from a herpetic tonsillitis to a peritonsillar abscess. From 20 to 80 per cent. of rheumatic cases follow an angina, the disease of the tonsil giving a direct cause for a mild attenuated pyemia. Sahli obtained the staphylococcus

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pyogenes citreus from the blood, synovial membrane of joints and exudate of endo- and pericarditis in rheumatism. Singer reports having found the staphylococcus pyogenes albus in urine and blood, and later the staphylococci and streptococci. This author[43] also speaks of the close relationship between acute articular rheumatism and osteomyelitis and looks upon the latter as a peculiar form of pyemia, in youthful individuals staphylococcus occurring in the form of osteomyelitis, in older individuals as acute articular rheumatism.

Bertram Abraham[44] found in the exudation of so-called sore throats a staphylococcus and streptococcus. These germs may also be found in blood and urine. The presence of the germs in the joint effusion seems not only to point to their being the actual cause of the disease, but to the strong probability that they enter the system by way of the tonsil. Achalme[45] described a bacillus found in the blood in rheumatism which is anaerobic and whose growth is facilitated by lactic acid and prevented by salicylates.

J. Thiroloix,[46] in a case of acute articular rheumatism complicated with pericarditis, double pleuritis and pulmonary congestion, derived from the pleural exudate and venous blood a diplococcus and bacilli arranged in chains with four to twelve flagellæ. In animals inoculated with the bacillus the author could induce similar pathological changes, as in acute articular rheumatism, with the exception of changes in the joints.

In the discussion on acute articular rheumatism at the last meeting of the American Medical Association, Packard, Musser, Anders, Stockton and Favill regarded acute articular rheumatism as an infectious disease. As to the specific organism, if any one species of organism may be mentioned, further investigation will have to be made. One thing is certain—that the port of entry to the variety of organisms having to do etiologically in a majority of cases of acute articular rheumatism is the tonsillar tissue. Packard,[27] however, quotes several authors showing beside the tonsils the port of entry of germs inducing acute articular rheumatism to have been phlegmon, otitis media, dysentery, bronchiectasis, gum-boil, vaccination, etc.

There is a close relation existing between tonsillitic rheumatism, endocarditis and chorea. MacLagan[47] states that rheumatism is essentially a disease of the motor apparatus and that chorea is a disease of the motor centers. Chorea affects those having a history of present or prior rheumatic attack with or without a heart affection and there are cases, as, for instance, those following shock in which there is a family history of rheumatism.

Bertram Abraham found in 243 cases of chorea that 53.4 had a family history of sore throat.

Collins and Abrahamson,[48] in a series of one hundred cases examined, state their conviction of a definite relation between chorea and rheumatism, but do not believe in the infectious theory, claiming that the recurrences and relapses speak against it; but Triboulet,[49] in 1892, described a coccus obtained from the blood in canine chorea and later found cocci in the blood of a case suffering from chorea and cerebral rheumatism, so Mircoli[50] believes chorea rheumatica to be an infectious process allied to several forms of bacteria of which the staphylococci are the more common, whereas Guiderossi and Genzetti[51] show that staphylococci may be in the circulation in Sydenham's chorea without attributing to them the cause of the nervous disease. They regard the presence of the organisms as a secondary infection and do not believe them to be a primary cause.

Joseph H. Abraham[52] reports a case of tonsillitis followed by endocarditis, articular symptoms and chorea, and Packard also reports cases of chorea following tonsillitis.

I recall the following case: L. W., aged thirteen years, schoolgirl. One sister died of dropsy, mother is rheumatic (I have since attended her for an attack of acute articular rheumatism); had diseases of childhood; one year ago was sick seven weeks with a severe attack of acute articular rheumatism, which was followed by choreic movements and heart trouble. Patient does not learn well at school. Has lost weight, has no appetite, complains of shortness of breath on exertion. Has chilly sensations, bowels irregular and complains of sore throat. The girl is anemic, tongue coated; she is a mouth-breather. On pharyngeal examination I find both tonsils markedly hypertrophied and the lacunar spaces open. Slight choreic movements are noted. Lungs negative; heart gives a soft systolic bruit transmitted to the axilla.

Because of the previous family history and condition of the tonsils, I advised their removal, fearing another attack of rheumatism. The patient took it under consideration, but in three days I was called to her home. The dwelling was old and the floor of the bedroom was lower than the ground outside. The floor was cold and damp as there was no cellar. The patient was in bed and appeared to be in great pain and distress. Her temperature was 102.4° F., pulse 110, respiration 32; anemia marked; tongue coated, breathing labored. The heart sound gave the systolic bruit at apex and in addition hemic bruits at the base. Lungs negative. There was a polyarthritis involving the phalanges and metacarpal articulations of the left hand, wrist, and elbow, and also both feet and ankles. There was redness, heat and great pain rendering examination of the patient difficult.

The patient was sent to the General Hospital, where, through the courtesy of Dr. Stockton I further observed the case. Under large doses of sodium salicylate, one to two grams, local applications of heat, and iron and strychnine, the patient soon improved. The heart lesions and some choreic movements still remained when she was discharged in March, 1900. The patient again came to my office in September, 1900, complaining of sore throat, headache and severe pains in the extremities. I removed both tonsils, and since then she has been doing well. The heart lesion

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and slight choreic movements persist. Histological examination of the tonsils removed showed an exudation and denudation in place of the epithelium lining the crypts with a great increase both in the lymphoid and fibrous tissue.

The lesions of typhoid fever are usually located in Peyer's patches and the solitary follicles of the intestinal tract, but Banti,[53] Vaillard,[54] Karlinski,[55] Vincent,[56] Guarmieri,[57] Kühnau,[58] Flexner & Harris,[59] Cheadle,[60] Chiari and Krauss,[61] Lartigau,[62] Ophills,[63] McPhedran,[64] and others, have reported true cases of typhoid fever in which no intestinal lesions were discovered postmortem.

Capillari[65] reports five cases of typhoid fever in an epidemic in which the disease set in by a tonsillar growth. He gives similar observations by Coradischi and finds a like infection for tonsils and Peyer's patches as not unlikely on account of the similarity of structure in the tissues. He quotes Lucatello who found bacillus of typhoid fever in laryngitis.

In this connection may be mentioned a case reported to me by Dr. Allen A. Jones. The patient, a girl, aged twenty years, went to a trolley party and on the following day complained of a sore throat. Her temperature was 105.8° F. and there were symptoms of fever. Examination of throat showed on the left tonsil an acute follicular tonsillitis; cultures showed staphylococci in pure culture.

On the third day the soft palate was edematous, the right tonsil showed follicular tonsillitis; temperature 104° F. Despite cold packs and antipyretics the temperature for five days was never below 103.5° F. On the fifth day delirium was present and a Widal examination was negative; two days later it was positive.

The blood showed a leucopenia; erythrocytes 4,700,000, leucocytes 6800; hemoglobin 80 per cent.

Was this a mixed infection through the tonsil or did the pyogenic infection lower the resistance to a secondary typhoidal infection?

In view of the fact it leads necessarily to the suggestion that in some few cases the portal of entry for the Eberth bacillus may be the tonsillar tissue.

It is worthy of notice that in the oropharyngeal cavity, next to the lips and tongue, the tonsils are seats of initial lesions of syphilis, the open mouths of the crypts presenting a favorable lodgment for the virus.

Jessen[15] believes, as does Zarniko,[66] that in many cases, scrofulosis represents nothing more or less than a general infection from the tonsil, more especially the pharyngeal tonsil. Jessen quotes four very interesting cases which show that after the removal of adenoids in young children, the symptoms of scrofulosis subsided. As scrofulosis is blended with tuberculous adenitis of cervical and bronchial lymph-nodes, the cause of a sudden eruption of a latent tuberculosis into acute phthisis, miliary tuberculosis or tuberculous cerebral meningitis, is at hand.

This leads to the suggestion that the tonsillar tissue may oftener than credited be the port of entrance of tubercle bacilli into the general system.

Pluder and Fischer[67] demonstrated the presence of tubercle bacilli in the tonsil limited to the mucosa in five out of thirty-two cases examined and believe this condition represents a latent primary form of the disease. They quote Lermoyez who found the tonsils tuberculous twice in thirty-two cases examined, Gottstein four times in thirty-three cases examined, and Brindel eight in sixty-four cases examined.

Friedman,[68] in a careful histological examination of one hundred and forty-five cases in fifty-four of which the tonsils were removed during life and in ninety-one on postmortem, from young children, states that tonsillar tuberculosis occurs as often primarily through infectious feeding as secondarily from the sputum, and he concludes that the tonsils especially in small children, are not without importance as portals for tuberculous infection.

To me the following case illustrates the relation of tonsillar disease and pulmonary tuberculosis: S. A., aged twenty-one years, barber; has been under observation for two years, never, however, for any pulmonary complaint. In several examinations of the chest made during that time no evidence of pulmonary disease was noted. The family history gives no tuberculous history. In August the patient came to me complaining of malaise, weakness, cough and night-sweats. There had been hemoptysis a number of times a few days prior to his visit, which the patient interpreted as from his stomach.

Physical examination reveals along the left supra- and infraclavicular space harsh breathing, subcrepitant râles and broncophony; in the mammary region of same side, bronchovesicular breathing and friction râles; at the right apex increased vocal fremitus a few râles; at the left and right suprascapular region increased vocal transmission, bronchial breathing, and fine crepitation. The cervical lymph-nodes were enlarged. Examination of the sputum showed tubercle bacilli. On examination of the pharynx the right tonsil is remarkedly hypertrophied. It was removed, not in the hopes of offering anything in the way of treatment, but for histological examination. No tubercle could be detected, but the lymphoid tissue was increased as was the connective tissue stroma; the epithelium of crypts was also increased.

Although no tubercle can be detected in the sections thus far examined, I am nevertheless convinced that, because of the enlargement of the cervical lymph-nodes, the tonsil is a portal of entry for the tubercle bacillus.

In conclusion it has been shown:

1. That the normal tonsil has a physiological function, probably protective to the organism.

2. That being in itself often diseased, the physiological function of the tonsil is impaired and that instead of being protective, it is the nidus for the growth and distribution of pathogenic organisms

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and their poisonous products into the system.

3. That many grave and fatal general infections have their origin in the tonsils.

4. That, if the exanthemata, especially scarlatina, are of bacterial origin, the tonsil acts in part as port of entry.

5. That acute articular rheumatism and the diseases often associated with it, endocarditis and chorea, in a great majority of cases are due to the action of attenuated bacteria, their toxins or both entering the general system through a diseased tonsil.

6. That in rare cases of typhoid fever in which no intestinal ulcerations can be demonstrated, the similarity of the tonsillar tissue and Peyer's patches suggests the portal of entry of the Eberth bacillus into the tonsil.

7. That scrofulosis is often associated with diseased tonsillar tissue and that the tubercle bacillus often enters the system via the tonsils.

8. That the tonsil is too little examined at necropsy and that much light might be shed on fevers of uncertain origins by bacteriological and histological examination of it.

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[68]Friedman, F. F. Ueber die Bedeutung der Gaumentonsillen von jungen Kindern. Beiträge zur Path. Anatomie und zur allgemeinen Pathologie, Bd. XXVIII, erstes Heft, 1900.

400 Franklin Street.

MEDICAL PROGRESS.

Deleterious Effects from the Use of Coffee.—Probably too little attention is paid to the functional disorders of the nervous and digestive systems, induced by the habitual overindulgence in the use of coffee. W. M. LESZYNSKY (*Med. Rec.*, Jan. 12, 1901) believes that this beverage is the cause of a large number of the neurasthenic symptoms so common among the American people. One-third of all coffee is consumed by Americans and since its action is to excite the imagination and the memory and to augment the power of attention, it is reasonable to suppose that under the strain of overwork of our modern civilization many are induced to temporarily stimulate their mental faculties far beyond the capability of the individual. The symptom-complex usually noted is as follows: General nervousness, tremor, vertigo, restless sleep, cardiac palpitation, eructations of gas and constipation. The pupils are slightly dilated and the reflexes exaggerated. A severe case may be confounded with alcoholism. An important difference between the acute and chronic form is that when taken in large doses it causes extreme excitability, but in the chronic form which is the more common the toxemia manifests itself as a depressive form of neurasthenia A gradual reduction in the amount used is necessary and a substitution, if indicated, of some harmless beverage. As a sedative to the nervous system the following is recommended three times per day: Sod. Brom., gr. xv; Lig. Potas. Arsenitis., ♏ ij; Tinct. Gent. Comp., ʒ ss; Ext. Kola Fld., ♏ xv. At the end of a few weeks, tonics such as quinine, iron and strychnine should be substituted.

Intestinal Flora of Sucklings.—H. TISSIER (*Thèse de Paris*, 1900) has very recently brought forward some interesting results of studies made in Professor Grancher's laboratory in

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Paris. The conclusions reached are based on 19 clinical observations and many bacterial investigations. Briefly, the contents of this monographic article of 254 pages may be summed up as follows: The intestinal flora widely varies, depending on whether the infant is bottle-fed or nourished at the breast. In the breast-fed child, after an aseptic phase which lasts from ten to twenty hours, bacteria appear in the intestinal contents, cocci and bacilli; in the stools following the first feedings appear successively the bacillus putrificus coli and the bacillus bifidus. This infection appears to come from the mouth; the coli may come, however, from the anus. Toward the fourth day the flora becomes fairly constant—B. bifidus, B. coli, streptococcus, B. lactis aerogenes. In pathological stools there may be present in addition the diplococcus liquefaciens, B. anærobius perfœtens, and a streptococcus which looses its stain by Gram. In bottle-fed infants the B. acidophilus, B. exilis, enterococcus, B. coli, B. lactis ærogenes, B. bifidus, sarcinæ, etc., are often present. In the chronic gastro-intestinal infections of infants the diplococcus griseus liquefaciens, B. minutis, and members of the colon group are often found. The examination of the stools suffices to enable one to draw conclusions as to the method of feeding. In breast-fed children the fermentations are of little pathological significance. In bottle-fed infants digestion is incomplete and the intestinal contents richer in fermentable substances than when nourished at the breast. The determining cause of gastro-enteritides is almost always an infection; in a few instances the affection is purely toxic in character. The author does not recognize a primary endogenous infection. The relative immunity of the breast-fed child seems to depend (1) on the chemical condition of the intestine little favorable to the development of bacteria; (2) on the presence within the intestinal canal of the B. bifidus which inhibits the growth of the B. anærobius perfœtens, streptococcus intestini, B. coli and lactis ærogenes. The susceptibility of artificially-fed children depends (1) on the chemical state of the intestinal contents, richer in fermentable substances; (2) on the bacterial flora less resistant to the action of poisons, which contains varieties neutralizing the action of inhibiting organisms like the B. acidophilis, and other forms, resembling some varieties of sarcinæ.

Urethrotomia Interna.—B. GOLDBERG (*Deutsche Zeitsch. f. Chir.*, Nov., 1900) says that this operation should be done so that the incision is only on the upper wall of the urethra. The reasons are that mesially the urethra is most free from erectile tissue on its dorsum, hence hemorrhage is much less apt to be severe than when the other walls are cut. The only exception to this rule is that in the membranous urethra the venous plexus of Santorini is present over its dorsal aspect. When the pendulous urethra is the site of operation it should be drawn tense so as to make it easier to cut. The best instrument for all-round service is the Maisonneuve. The most careful antisepsis must be observed. All possible instruments must be boiled and others immersed for a long time in antiseptics. When the lumen of the stricture permits, urethral and vesical irrigation must be practised. In impassable occlusions urotropin is very serviceable in rendering the urine clean. The retention of a catheter for one or two days after the operation is of service. The prognosis of this operation as to fatalities is absolutely good; as to cures as favorable as possible, and as to infiltration of urine, infection and other complications considerably better than the external.

Tetany in Infancy.—JOHN L. MORSE (*Phila. Med. Jour.*, Jan. 5, 1900) considers briefly the character, the etiology and the frequency of the occurrence of tetany in infants and reports in detail seven cases of interest not only as examples of the condition, but also as throwing some light on its etiology. A summary of these cases shows that there was no common etiologic factor. Digestive disturbances occurred in all but one. In one case they seemed the only factor, while in two others they seemed the only important factor. In only one case were they apparently unimportant. Moderate signs of rickets were present in one case and slight signs in three others. Craniotabes was not present in any case. The gums were distended by teeth in two cases, and in one of these no other cause of tetany was evident, but in this case the condition of the gums remained unchanged after recovery. Influenza seemed to be the cause in one case and syphilis in another. In all except one case conditions were present which were evidently capable of causing toxic products. Morse concluded that tetany is due to the action of the toxic products of many diseaseed conditions on the nervous system, and, for this reason, says that treatment must be directed to the cure of the primary disease, to the prevention of the formation of toxic products, and to their elimination, if already formed. Symptomatic treatment is also important to relieve pain and discomfort, but should not be employed to the exclusion of the treatment of the causative condition.

Vaginal Caesarean Section.—A. DÜHRSSEN (*Archiv. f. Gynäk.*, Bd. 61, Hft. 3) reports another case of eclampsia in which the uterus was emptied quickly by the method which was first presented by him in 1896. In this case the cervix was brought down to the vulva and the posterior lip held with two volcella. A transverse incision in the anterior vaginal vault permitted stripping off the bladder and the peritoneum from the cervix and body of the uterus. The widely-exposed cervix was now mesially divided throughout its length and the superjacent uterus until the hand could be introduced and version and extraction done. The head of the child made extension of this cut for a centimeter and a half. The placenta was manually extracted.

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Hemorrhage was checked by packing. The cut in the uterine body and the transverse vaginal opening were sutured with catgut. The preuterine space was drained and the vagina tamponed. The cervix was not sutured. Death occurred on the twenty-third day after delivery of pneumonia. The patient was tuberculous and the pneumonia was of this character. All conditions associated with the eclampsia had vanished before death. Reserving the classic abdominal Caesarean section only for cases of contracted pelvis, Dührssen thinks the vaginal method will fulfil all the desiderata of neatness, rapidity, safety and propriety whenever interference in the interests of the mother or child is necessary. Union of the wound occurs, so as to give very slight scar and not interfere with subsequent normal delivery. The operation is properly entirely extra peritoneal.

Cardiac Syphilis.—W. ZYDLOWICZ (*Klin. therap. Woch.*, Jan. 6, 1901) points out that syphilis shows a certain predilection for the circulatory organs. In many people, especially the aged, there will be found an arhythmic pulse a short time before the appearance of the roseola which in itself is of slight importance, since it disappears with specific treatment, yet it considerably modifies the prognosis. Later, changes in the heart may take the form of an interstitial myocarditis, depending on an obliterating endarteritis or on gummata or on both together. The pericardium, endocardium and the valves are only involved later by continuity. On physical examination, nothing as a rule is found except arhythmia and a moderately enlarged heart, and most cases are put down as neurotic. Yet the correct diagnosis is of great importance, since a cure is easy in the earlier stages, while later sudden death is very apt to follow. The author relates an interesting case in which mercury and iodide of potassium led to a complete cure.

Paroxysmal Hemoglobinuria. — A peculiar condition, in which blood appears in the urine of a patient after an exposure to cold, has been described by many authorities under various names, but, since the blood-cells are not present in the urine, the above name seems the most appropriate. A case is analyzed by W. J. LAMSON (*N. Y. Med. Jour.*, Jan. 19, 1901) in which attacks had occurred for several years, being almost entirely absent during the summer, but coming on very frequently, sometimes daily, during the winter. A typical attack began about 10 a. m., after an exposure to cold, with chilly sensations, cold and cyanotic extremities, increase of the jaundice hue which was constant, and some nausea. He then passed urine of a port-wine color, more frequently and in larger amounts than usual. The chill lasted from one to three hours, and the urine cleared up rapidly as soon as the patient became warm. The pathology of these cases is obscure, no autopsy having been reported. No adequate cause can be found, but it is supposed that, in a patient especially susceptible, a severe chilling disorganizes some of the red blood-cells which pour out their hemoglobin, and this is at once excreted by the kidneys. A change of climate seems to be the only efficacious method of treatment.

Treatment of Fractures.—To determine the value of the Lucas-Championnière method of treating fractures with massage, B. ROSSI (*Klin. therap. Woch.*, Dec. 23, 1900) did some extended experiments on animals which without doubt prove the value of this procedure. Transverse fractures were artificially produced in the middle third of the femur of rabbits; half of these were treated by massage, the other half by immobilization; in the former, firm callus had developed by the eighth day; in the latter, by the fourteenth only. Microscopically, abundant formation of osseous tissue could be demonstrated in the one set, while not a trace of it could be found in the other.

Hemarthrosis of the Knees.—Two peculiar cases of hemorrhage into the knee-joints are reported by R. A. HIBBS (*N. Y. Med. Jour.*, Jan. 19, 1901). The patients were brothers, eleven and fifteen years old, giving the history that two hemophiliac brothers died in infancy. For several years they have had attacks of sudden swelling of the knees, showing definite signs of the presence of fluid. The joints were so painful after such an effusion that walking was difficult for several days. No other joints had been affected and, although at times the attack was accompanied by hemorrhage from the mucous membranes, the latter was not a constant feature.

Leucoplacia.—Despite the fact that leucoplacia has frequently been considered a syphilitic manifestation, J. SELLEI (*Monatshft. f. prakt. Dermatolog.*, Jan., 1901) considers it a separate and distinct disease, for not only can a specific history be rarely obtained, but it is frequently found that the placques become carcinomatous—a condition which is rare in luetic lesions. The latter also do not show such tendency to be limited to the tongue. Certain pathognomonic signs of syphilis are generally absent in true leucoplacia, such as enlarged nodes and rapid disappearance with mercurial treatment and the presence of other syphilides. Pathologically there is found an infiltration in the corium with hypertrophy of the elastic fibers. In many places the lumina of the vessels are much narrowed owing to thickening of the intima.

Suprarenal Extract in Addison's Disease.—The history of an interesting case of morbus Addisonii is related by P. EDEL (*Münch. med. Woch.*, Dec. 25, 1900). When the patient was first seen the disease had lasted six months without remission, while two to three days after the administration of suprarenal extract a marked improvement had already taken place and two weeks later the patient returned to his former laborious occupation. Unfortunately somewhat later, meningeal symptoms developed, the pigmentation reappeared and the patient died after a brief illness. The post mortem showed a tuberculous nodule in one suprarenal, with tuberculosis of the meninges and of the lung.

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THERAPEUTIC HINTS.

Catarrhal Jaundice.—As a rule, writes Wm. Osler, the patient can keep on his feet from the outset. Measures should be used to allay gastric catarrh, if present. A dose of calomel may be given and the bowels kept open by salines. The patient should not be violently purged. Bismuth and sodium bicarbonate may be given, and the patient should drink freely of the alkaline mineral waters, of which Vichy is the best. Irrigation of the large bowel with cold water may be practised, but has not given the author good results.—*Practice of Medicine.*

Nasal Douche.

℞ Sodii salicylat.....
Sodii borat.....aa. 24.0 (℥ vj)
Sodii bicarb.....
Sodii chlorid.....aa. 40.0 (℥ x)

M. Sig., grams 4.0 (℥ j) to grams 500.0 (O j) of tepid water.—*Ingals.*

Syphilitic Eruptions.—Startin's lotion is as follows:

℞ Hydarg. chlor. corrosiv. 0.13 (gr. ij)
Ac. nitric dil,..... 2.0 (℥ ss)
Ac. hydrocyan. dil..... 2.0 (℥ ss)
Glycerin ..... 4.0 (℥ j)
Aquæ q. s. ad..... 120.0 (℥ iv)

—*Bartholow.*

Acute Rhinitis.—In the beginning an attack may often be aborted, writes E. F. Ingals, by morphine, gram 0.01 (gr. 1/6), with or without atropine, gram 0.0005 (gr. 1/120), pulv. ipecac, gram comp. 0.7 (gr. x), pilocarpine hydrochlor., gram 0.008 (gr. 1/8), quinine, gram 0.4-0.7 (gr. vj-x) or a hot sling taken at bedtime. It may also be checked in a similar way by one or two doses of ammon. carbonate, gram 0.7-1.3 (gr. x-xx), ammon. chlorid., gram 1.3-2.0 (gr. xx-xxx), lig. ammon. acetat., tincture of belladonna, tincture of euphrasia officinalis, ammoniated tincture of guaiacum, or an emetic dose of antimony. The action of these is favored by a hot foot-bath containing a handful of mustard. If abortion fails, inhalation through the nose of warm vapors or sprays of ammonium chloride, sodium bicarbonate, or boric acid, are grateful to the patient and aid resolution. Turkish baths, diaphoretics and diuretics may expedite the cure. A useful powder for insufflation is the following:

℞ Cocaina ..... 3 parts.
Sod. bicarb.....
Sod. borat.....aa. 1½
Iodol 25
Magnes. carb. levis..... 1
Sacchar. lactis. ad.....100 parts.

Spray frequently with cocaine, 1 to 2 per cent. in water or oil. In some cases an aqueous extract of the adrenal glands gives better results. If the disease persists spray with vaseline oil, and give small doses of hyoscyamus or cannabis indica with camphor or phenacetine and quinine. Keep bowels open.—*Diseases of Chest, Throat, and Nasal Cavities.*

Neuralgia.—When this is due to reflex irritation from the female pelvic organs, writes Roberts Bartholow, the preparations of zinc, notably the valerianate, are often extremely beneficial, for example:

℞ Zinci valerianat.....
Ext. gentianæ.....aa. 1.3 (gr. xx)
Ext. nucis vomic..... 0.3 (gr. v)

M. Ft. pil. No. xx. Sig.: One three or four times a day.

Dysentery.—In some cases, writes Andrew Davidson, ipecac, gram 0.7-4.0 (gr. x-℥ j), alone or with opium, is the successful drug. In others ipecac is useless and perchloride of iron tincture, or calomel may succeed. Niemeyer recommends calomel, gram 0.06 (gr. j), and opium, gram 0.015 (gr. ¼), every two hours. Rest is of great importance, and in most instances the diet should be milk, either plain or with lime-water or peptonized. When milk fails, give tablespoonful-doses of beef essence made from a pound of good meat, minced, mixed with water, grams 60.0 (℥ ij), allowed to stand an hour, then placed in a vessel of boiling water for three hours and strained. When prostration is great, wine or brandy is indicated. If the patient be very thirsty whey may be given. Much relief may be obtained from a linseed poultice over the whole abdomen, and, if there is considerable gastric irritation, a sinapism, or spongio-pilene placed in hot water and sprinkled with turpentine, may be applied to epigastrium. If there is fever and sweating a poultice may only increase the suffering. After each stool wash the anus with some disinfecting fluid to prevent excoriation. In giving ipecac, precede by thorough flushing with sodium sulphate or calomel, then administer the ipecac in doses of grams 2.0 (℥ ss) every six, eight, or twelve hours. Vomiting after the first dose will do good rather than harm, but the second dose should be preceded by mustard over the pit of the stomach and tincture of opium, gram 0.7-1.0 (♏ x-xv), internally. If ipecac is inadmissible for any reason, the saline treatment may be resorted to, especially sulphate of sodium, grams 30.0 (℥ j), every morning. Sulphate of magnesium may be helpful. Benzonaphtol, betanaphtol, or resorcin, in large doses may diminish the intestinal fermentation and enemas may be of moderate advantage.—*Allbutt's System of Medicine.*

Chronic Alcoholism.—To relieve the trembling, to diminish the appetite for strong drink, and to relieve the gastric catarrh, the following is very useful:

℞ Zinci oxid.....4.0 (℥ j)
Piperin .....1.3 (gr. xx)

M. Ft. pil. No. xx. One three or four times a day. Small doses of chloral and bromide may be added.—*Bartholow.*

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A WEEKLY JOURNAL

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SATURDAY, JANUARY 26, 1901.

CYTODIAGNOSIS.

WIDAL, the inventor of the agglutination test for the diagnosis of typhoid fever, seems to have added another helpful measure to our diagnostic armamentarium by his work in cytodiagnosis. The effusions that take place into the various serous cavities of the body under pathological conditions show under the microscope a variety in the cell-contents, according to the cause of the effusions. This is especially noticeable in pleuritic effusions, and will probably prove valuable in determining the line of treatment and in making prognoses. For diagnostic purposes, it is only necessary to draw off a few cubic centimeters of serous fluid with an ordinary hypodermic syringe. The liquid is centrifugated after defibrination, and some of the sedimentary part is spread with a platinum loop upon a cover-glass. It is then stained with thionin, or eosin hematein, or with Ehrlich's triacid solution.

Under the microscope the characteristics of the various forms of effusion are revealed. Ordinary pleurisy, for instance, presents in its cellular sediment only small lymphocytes and at times a relatively large number of red blood-cells. The lymphocytes show a marked tendency to run together. It will be remembered that this form of pleurisy has of late years been considered to be tuberculous in origin. Even when tubercle bacilli cannot be found in the sediment, the injection of the pleuritic exudate into animals often results in the development of tuberculosis, and it is well known that tuberculosis may subsequently develop in patients who have suffered from so-called idiopathic pleurisy.

Pleuritic effusions in distinctly tuberculous patients present quite a different cell-formula from that of what may be called latent tuberculous pleurisy. Very few cells are found in the centrifugate, rare lymphocytes and scattered red blood-cells. The characteristic find is a certain number of old, deformed polynuclear leucocytes, the nuclei of which are very irregular and contain deteriorated neutrophile granules. This same cell-formula occurs in the exudate of tuberculous hydropneumothorax, and it is strangely suggestive of the chronicity of the pathological process at work.

Mechanical hydrothorax, occurring in cardiac and renal cases, or because of compression, presents a cell-formula characterized by the number of large endothelial cells. These have fallen from the surface of the pleura, and often retain their connection with each other by twos or threes. If the effusion is old, the cells are more apt to occur singly, their adhesions having given way during their maceration in the fluid of the exudate.

Pneumococcus pleuritic exudate presents, according to Widal, the most striking picture of vital reaction and defense against the invading infectious agent. A few lymphocytes and red blood corpuscles are found, but most of the cells are polynuclear leucocytes of very active vitality as regards their phagocytic properties. There occurs in addition a certain number of large mononuclear lymphocytes, evidently of endothelial origin, but very seldom found adherent to one another. These are, in Widal's words, veritable macrophagocytes, and are often found to have engulfed polynuclear leucocytes.

Streptococcus pleurisy gives an exudate without the characteristic signs of reaction, or, at most, only evidence of an abortive effort to throw off the infection. The cell-formula consists mainly of polynuclear neutrophiles with deformed nuclei. Exudates that occur during the course of typhoid often present a number of large mononuclear leucocytes significant of successful reaction to the infection.

Serous effusions into other cavities present cell-formulæ that bear analogies to those of pleuritic exudates. Although Widal was not able to culti-

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vate any form of germ from the articular exudate of 15 cases of rheumatism, the character of the cells present, mostly polynuclear leucocytes of active type, showed a very marked reaction to infective invasion. Traumatic arthritis presents a distinct analogy to mechanical pleurisy, characterized by the presence of cells from the serous lining of the joints. The arthritic effusion into tabetic joints has the general character of a traumatic arthritis. Most cases of hydrocele, according to their cell-formula, are also of mechanical origin.

ACUTE DILATATION OF THE HEART AND SUDDEN DEATH.

THE fact that death occurs quite unexpectedly in children who are suffering from diphtheria, or even in those who have apparently recovered from an attack, makes the subject of heart dilatation a matter of great importance in the treatment of this disease, as well as in certain cases of influenza and rheumatic fever in which it sometimes causes fatal syncope.

It has been thought by some that sudden death after diphtheria is caused by a neuritis of the vagus; but, from a careful pathological study of the heart by several observers, it has been shown that the fatal syncope that follows diphtheria is probably due to a diseased condition of the heart itself rather than to disease of its nervous mechanism. In some cases of death following diphtheria, a fatty degeneration of the cardiac muscle has been found, and in other similar cases, as well as in sudden death following rheumatic fever, very marked degeneration of many of the cardiac muscular fibers, and complete destruction of some parts of them have been observed.

Such investigations naturally lead us to conclude that there must be more or less degeneration in a large proportion of the cases that recover, and the practical question arises, whether such cardiac degeneration may be detected by clinical investigation.

This has been answered and well discussed by Dr. W. B. Lees (*British Medical Journal*, January 5, 1901), in an article entitled "Acute Dilatation of the Heart in Diphtheria, Influenza, and Rheumatic Fever." He says that from his experience with such cases, the clinical indications which should be sought for are: Feebleness of the pulse-wave; feebleness and diffusion of the cardiac impulse; extension of the cardiac dulness to the left; feebleness of the first sound at the apex, with accentuation of the pulmonary second sound and a marked accentuation of the aortic second sound. He has found that in children suffering from diphtheria the cardiac dulness is usually increased toward the left. If this extends two fingerbreadths to the left of the nipple line, there is urgent peril and the child must not be allowed to sit up in bed under any consideration. A rapid increase in dulness sometimes takes place in a few hours, and is frequently accompanied by vomiting, which is a sign, and an unfavorable one, of acute cardiac dilatation. Unless careful percussion and palpation is continued during apparent recovery from such an attack the patient may be in danger at any time from exertion. In time, however, with extreme care, the heart will usually return to the normal size.

In influenza, rapid dilatation of the heart frequently occurs within a day or two after the onset of the disease, and it sometimes causes fatal syncope. Here, as in diphtheria, two fingerbreadths of dulness indicate danger. In *Jacobi's Festschrift*, Forscheimer called attention to this condition and has described with striking clearness two types of the disease. He is inclined to lay great weight on the action of the toxins of the influenza bacillus on the medullary center.

In rheumatic fever, even in slight attacks, acute dilatation of the heart seems to be invariably present, but, although so much more frequent than in diphtheria or influenza, it is not nearly so fatal, probably because the several toxins affect the cardiac muscle differently. When, however, dulness is found in a patient with rheumatism, which extends beyond two fingerbreadths to the left of the nipple, and is accompanied by sudden vomiting, pallor and coldness, there is great danger of collapse.

It is very evident from these well-recognized facts that greater attention to the study of cardiac dulness will avert disastrous results and that fewer cases of sudden death will have to be reported if sufficient caution is taken.

THE PRESENT STATUS OF RHEUMATIC FEVER.

THE gradual drift of medical opinion is not more strikingly shown with reference to any disease than in the case of rheumatic fever. Many and persistent have been the theories regarding its etiology, from the earlier views of Cullen in 1784, who taught that the disease was due to the direct

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influence of coid upon the joints, to the *fin de siècle* hypotheses of neurochemical action.

In the current number of the *Practitioner,* January, 1901, there is presented a review of the present status of rheumatic fever of more than usual interest. Papers by Drs. Newsholme, Poynton, St. Clair Thomson, Gibson, Still and Luff on the Epidemiology, Pathology, Rheumatism and the Throat, Effects of Rheumatism on the Heart, Rheumatism in Childhood and the Treatment of Rheumatism, respectively, afford a survey well calculated to impress the reader.

In his discussion of the Epidemiology of Rheumatic Fever, Dr. Newsholme dissipates some popular misconceptions regarding this disease. He insists that rheumatic pains, so called, those usually induced by the influences of wet weather, have absolutely no connection with rheumatic fever, and that this disease has been shown, by statistics drawn from wide sources, to be much more prevalent in dry seasons than in wet ones. The conclusion is expressed that a heavy annual rainfall is usually associated with a low amount of rheumatic fever and a small rainfall with an excessive amount of rheumatic fever, though no exact proportion of the two factors can be predicated.

He further shows that the incidence of this affection is sufficient to warrant the belief in the epidemic character of the disease. Two kinds of epidemics are to be distinguished, the explosive and the protracted. The explosive epidemics terminate in one or, at the most, in three years The protracted epidemics are seen chiefly in large centers of population or when the statistics of a large country are being studied. The author believes in the contagion theory and hazards the surmise that inoculation of the contagion of rheumatic fever may be caused by domestic vermin.

Dr. Poynton presents the various theories which have arisen to explain the pathological features of the disease, and finds favor with the infectious theory. The diplococcus, isolated by himself and Paine (*Lancet,* September 22, 29, 1900) from twelve cases of rheumatic fever and demonstrated in the pericardium, the pleura and cardiac valves, is held to be *a* cause of rheumatic fever, and he moreover says that one of the most important sites of infection is the throat, in which connection, the paper by Ullman in this week's issue of the MEDICAL NEWS is of interest. The paper following, by Dr. St. Clair Thomson, on Rheumatic Fever in Relation to the Throat, discusses this same question very clearly. He considers the two points of view so frequently debated, that, on the one hand, the poison enters the body through the tonsil, the inflammation of which may be the earliest indication of the systemic affection, or that certain inflammations of the tonsils occur with greater frequency in patients with an arthritic diathesis. Each of these views is worthy of some consideration, and although our knowledge is not, at the present time, enough to fully answer the query, a fuller insight into the precise character of the anginas will probably answer these questions. At all events, it seems certain that from thirty to eighty per cent. of all cases of rheumatic fever are associated with tonsillar angina and that no direct relationship seems to exist between peritonsillar angina (quinsy) and rheumatism.

It is generally admitted that heart lesions may precede the articular symptoms and Dr. Gibson, in his paper, brings out the significant fact that it is unnecessary to consider the heart lesions as complications of the articular changes any more than it is to discuss the reverse position. The two are the same disease, similar in kind, if not in degree, and the query arises, not, how shall the cardiac complications be avoided, but how shall the cardiac rheumatism be treated. He enjoins absolute rest, a milk diet, the salicyl series of compounds, the iodide of sodium, as an absorbent and counterirritation, by means of small fly blisters, applied every night or every other night, over the precordia.

To measure the frequency of rheumatism in childhood by the number of patients who come for treatment of the articular lesions is entirely to misunderstand the prevalence of this disease in early life, says Dr. Still in his paper. The heart implication may occur alone as the earliest symptom and no more significant feature is brought out in the discussion than the importance of the early recognition of rheumatism in childhood. Slight symptoms are apt to be overlooked and early manifestations of pain are only too liable to be dismissed as "growing pains." As Dr. Still points out, "it is by paying attention to the 'day of small things,' the apparently trivial aches and pains, and the various associations which make up the picture of rheumatism in childhood, that we may hope, in some cases at least, to prevent those terrible results which are too often seen from neglected rheumatism in children."

Dr. Arthur P. Luff, in discussing the "Treatment," lays stress on the employment of salicin and the salicylates originally introduced by Maclagan and the German school in 1874, and now so widely used the world over.

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ECHOES AND NEWS.

NEW YORK.

Mount Sinai Appointments.—Dr. Hiram N. Vineberg has been appointed adjunct attending gynecologist to the Mount Sinai Hospital.

Dr. Moore Reinstated.—The official reinstatement of Dr. J. W. Moore of Bellevue Hospital took place last week. He resumed his duties in the medical wards by order of Commissioner Keller.

Red Cross Hospital.—William T. Wardwell, President of the Red Cross Hospital in West Eighty-second Street, has given $40,000 to aid in the erection of a new hospital much needed by the management.

For Pure Food.—Another bill carrying out a recommendation of the Governor, and introduced by Senator Ambler, transfers to the State Agricultural Department the supervision of all food products, except beverages, confectionery and drugs. The bill also prohibits the sale of adulterated food in this State and defines what foods shall be judged adulterated.

Charity Societies Protest.—Governor Odell's idea for a new State Board of Charities, which was embodied in the bill introduced in the Legislature recently, does not meet with the approval of the charitable societies of New York. The bill calls for the abolition of the present board and substitutes for it a commission of three members, consisting of a commissioner and two associates.

Omega Upsilon Phi Fraternity.—The Omega Upsilon Phi Fraternity (medical) has just organized two new chapters, one at the University of Colorado, composed of fifteen students and several members of the faculty; the other a "graduate chapter" in New York City, to be known as the "Henry C. Coe Chapter," in honor of Professor Coe of the University and Bellevue Hospital Medical College.

State Board of Health Legislation.—The last of Governor Odell's State Commission Consolidation bills was introduced in each branch of the Legislature January 21st, when a bill abolishing the present State Board of Health and providing for a single-headed commission was introduced by Senator Audett. The Commissioner of Health is to be appointed by the Governor, and is to be a physician of ten years' experience in actual practice of his profession. The term of the first Commissioner is to expire on December 31, 1904, and thereafter his successor shall be appointed for a term of four years. The Governor is to appoint the Commissioner within twenty days after the act takes effect, when the terms of the present members of the State Board of Health and the Secretary of the Board shall expire. The Commissioner is to receive a salary of $3,500 and is empowered to employ such clerical assistance as may be necessary. A State Bureau of Vital Statistics is created, to be under the Commissioner's supervision. The powers and duties of the present board are to devolve upon the single-headed commission.

Typhoid at Sing Sing.—The prevalence of typhoid fever among the prisoners of Sing Sing has brought the attention of the State Board of Health to the institution and it looks as though that body would condemn the prison for its unsanitary arrangements and recommend that a new prison be built. On Saturday Charles F. Wingate, consulting engineer to the State Board of Health, made an examination of the prison's sewerage system. He found that the prison cells were but four feet above tidewater and that the sewage emptied into the Hudson at low tide backs up under the prison buildings. He also condemned the whole plumbing system. There are forty cases of typhoid among the convicts, and there have been two deaths from the disease in the past two months. The cases were first attributed to the impure condition of the Croton water with which the prison is supplied. Dr. Daniel Lewis of New York, President of the State Board of Health, believes the prison should be moved to higher ground. The State owns several hundred acres of high land east of the prison which would make a suitable site. It is the general impression, however, that if a new prison is to be built it will be in another part of the State. The prison was built in 1834.

PHILADELPHIA.

University of Pennsylvania.—Dr. J. Whitridge Williams of Johns Hopkins University addressed the Barton Cooke Hirst Obstetrical Society, January 16th.

Dr. H. A. Kelly.—Dr. Howard A. Kelly of Baltimore addressed the Student Volunteers of this city on the study of the Bible, Saturday evening, January 19th.

Norristown Hospital.—Dr. Mary M. Wolfe has been elected chief resident physician in the female department of the State Hospital for the Insane at Norristown to succeed Dr. Susan J. Taber, Dr. Alice Bennet withdrawing her name as a candidate after several tie ballots had been taken.

Cost of Maintaining Insane.—The Secretary of the State Board of Charities gives the following as the weekly cost of maintaining each patient in the various hospitals for the insane in Pennsylvania: Harrisburg, $3.75; Danville, $3.73; Norristown, $3.29; Warren, $3.50; Dixmont, $3.85; Wernersville, $2.96.

Filtration Expert Deposed.—The expert bacteriologist in charge of the test filtration plants of the city has been relieved because of errors in his work and computations. Supposed sterile jars were contaminated, one result of this being the statement that Schuylkill water contained 480,000 germs per cubic centimeter, which was reduced to 40 or 50 by filtration. It was also claimed that a percentage of 99.87 had been reached by the filtration methods under use.

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The tests will be continued under new supervision.

Pharmacists to Suggest New Laws.—The Pennsylvania Pharmaceutical Association will recommend some changes in the law as a result of the recent numerous prosecutions by the Board of Examiners. One feature is that druggists will be divided into two classes, first, those who sell prepared articles in the original packages, and, second, prescription druggists. Another feature is that the Commonwealth provide the expenses of examinations, enforcements of the law, etc., instead of having the Board of Examiners do this and keep the fees and fines as their compensation.

College of Physicians.—The Section on Gynecology met January 17th. Dr. E. E. Montgomery read a paper on the "Treatment of Prolapsus Uteri." This depends on the degree, repair of the perineum with resection of a portion of the anterior vaginal wall sufficing in some cases. In others ventral suspension should be added with possibly shortening of the uterosacral ligaments as well. Accompanying hernia should be treated by uniting the folds of peritoneum to obliterate Douglas' cul-de-sac. An extreme degree of prolapse of a large uterus demands hysterectomy. This should be done through the anterior vaginal fornix, seizing the broad ligaments with the angiotribe and applying chromicized catgut ligatures in the grooves thus made. Dr. Charles P. Noble reported a case of cancer of the cervix and pelvis following supravaginal hysterectomy. This is the only case in his experience, which includes 175 hysterectomies for fibroids and a larger number for other conditions. There was reason for believing that an unrecognized cancer existed at the time of operation. Dr. George E. Shoemaker reported a case of salpingitis with obscure localizing symptoms. Pain was felt in the epigastric and gall-bladder regions, the point of greatest tenderness varying from the epigastrium to McBurney's point. Diagnosis was made by examination under ether. Operation showed the tip of the appendix adherent to the right ovary, but the appendix appeared otherwise normal.

CHICAGO.

Applicants to Practise Medicine.—It is said that about 75 applicants for certificates to practise medicine or midwifery in Illinois were examined by the State Board of Health at its meeting, recently held in this city.

Governor Yates' Message.—The Governor recommends the enactment of a law making boards of county commissioners boards of health in their respective counties. He also recommends legislation for the establishment of a sanitarium for the treatment of tuberculosis.

Anti-Spitting Ordinance.—Such an ordinance was passed by the City Council January 14th. In brief, it is as follows: *Whereas*, Spitting on sidewalks, in public places and in public conveyances is detrimental to health, by reason of the danger of spreading contagious disease, and is also a public nuisance which should be abated; therefore, be it *Ordained by the City Council of the City of Chicago* that no person shall spit on any public sidewalk or on the floor of any public conveyance, or on the floors of any theater, hall, assembly room or public building; that any person violating the provisions of this ordinance shall on conviction be fined in a sum of not less than $1.00, nor more than $5.00; that this ordinance shall be in effect after its passage and approval by the Mayor.

Observations of the Blood in Anemia.—At a joint meeting of the Chicago Medical Society and the Chicago Society for Internal Medicine, held January 16th, Dr. Joseph A. Capps presented a preliminary report on this subject. A study of fourteen cases of chlorosis showed that the red corpuscles in all cases have a smaller average diameter than in normal blood. The color index is constantly very low, while the volume index is decreased to a less degree. The red cells in twenty-four cases of secondary anemia are also subnormal in diameters. The color index is not so low as in chlorosis. The volume index falls also, but never so much as the color. The size of the corpuscles in seventeen cases of leucemia and the relation of hemoglobin to volume are essentially the same as in secondary anemia. Thirty-one cases of pernicious anemia give a decided increase in the average diameter of the cells. The color index is high, and the volume index still higher.

Home for Consumptives.—Efforts will be made by the Illinois Society for the Prevention of Consumption to induce the Legislature to appropriate $200,000 for the establishment of a State sanitarium for the care and cure of cases of that character. Plans and estimates for the building of the sanitarium, which have been under way for over a year, have been completed and Dr. John A. Robison, Secretary of the Society, has been instructed to submit them for the approval of the State Board of Health. The project is endorsed by Mayor Harrison, Health Commissioner Reynolds, and the Illinois State Medical Society. Preliminary to the introduction of the plan in the Legislature, the Society expects soon to stir up agitation by the free distribution of literature, showing the necessity for the isolation of hopeless consumptives and the need of extending aid to the afflicted who are unable to care for themselves. As the purpose of the sanitarium primarily is to give free aid, the Legislature also will be asked to provide for a yearly appropriation to maintain the institution.

Chlorosis, Its Diagnosis and Treatment.—A paper on this subject was presented by Dr. Gustav Fütterer. From his clinical experience and experimental observations, he emphasized the following points: (1) Great attention should be given to the study of chlorosis clinically; clinical observation should be controlled by taking the specific gravity of the blood; a very energetic treatment, mainly with beef-juice, properly pre-

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pared, should be instituted at once and continued until the specific gravity of the blood has become normal. (2) Chlorosis or secondary anemia in tuberculosis must receive the same consideration and treatment, no matter what other treatment may be employed. (3) It is advisable to cause an artificial anemia in animals to be inoculated with suspected tuberculous sputum for diagnostic purposes, as a finer reaction will take place, and more accurate and probably quicker results can be expected. (4) Chlorosis in early years, or secondary anemia in later years, permits a round ulcer of the stomach to form and prevents its healing, while the presence of a normal percentage of hemoglobin brings about prompt repair, and that, therefore, chlorosis or secondary anemia, coexisting with round ulcer of the stomach, should receive first attention, before any so-called ulcer treatment is begun. (5) Therapeutic measures, particularly fresh and properly-prepared beef-juice, enable physicians to bring about a normal composition of the blood, both in chlorosis and in secondary anemia, as a rule, in a very short time.

Ureteral Implantation Into the Bowel.—Dr. Jacob Frank read a paper on this subject before the January meeting of the Chicago Academy of Medicine. After detailing considerable experimental work on ureteral implantation into the bowel, the essayist reaches the following conclusions: (1) The technic is all that can be desired; (2) bilateral implantation into the rectum simultaneously is primarily and remotely an extremely dangerous procedure, and can have no favorite place in human surgery; (3) While no single permanent implantation of the ureter into the rectum has demonstrated an absence of inflammatory reaction on the part of the kidney, nevertheless the essayist is of the opinion that it must be regarded as justifiable where other means fail, and has a limited place in pelvic surgery; (4) while stricture has not taken place, it cannot be said with confidence that scar contraction at the opening into the rectum will not in months or years produce one; (5) that the rectum will tolerate the presence of urine cannot be doubted, and has been proven to do so by many experimenters. In order to overcome the difficulties of stricture and ascending infection, Tuffier and Maydl, each claiming priority, proposed and carried out the implantation of the ureter by preserving the valve-like folds of cystic mucous membrane at the mouths of the ureters, thus protecting the kidney against infection. As long as the ureter is permeable and its sphincter functionating, so long is the kidney protected. This fact was proven to the speaker's satisfaction in his experimental work on vesico-rectal anastomosis.

GENERAL.

Plague Still Feared.—In spite of the reports that the postmortem examination of the remains of the three members of the crew of the British steamer "Friary" at Hull did not reveal that they were stricken with the plague, the authorities have ordered the "Friary" not to dock, but to anchor in the Humber. Two more deaths among her crew have occurred with symptoms of the plague. Five of the crew are isolated.

St. Louis Medical Society of Missouri.—At the meeting of January 19th, 1901, Dr. William Bayard Shields read a paper on "Influenza, More Especially its Effects on the Respiratory Organs and Accessory Nasal Sinuses." The following resolution was introduced at the meeting of January 5th, 1901: "*Resolved,* That two hundred and fifty dollars ($250) of the funds of this Society be set aside for the purposes of the special committee on State Legislation of the Medical Association of Missouri."

Medical Legislation in Germany.—Professor Neisser, of the University of Breslau, has just been severely censured and fined for having published an account of certain experiments to which he had subjected children who were patients in the University hospital. In obvious connection with this case is an order which has just been promulgated by the Prussian Minister of Public Instruction, directing the attention of those who have the management of clinical and polyclinical hospitals and similar institutions to the fact that medical operations for any purposes save those of the diagnosis, cure and prevention of disease are forbidden, even when otherwise permissible from the legal and moral point of view, in the case of minors, in cases in which express premission has not been given, and in cases in which this permission has not been preceded by a proper statement of the injurious consequences which might possibly result from the operation.

Obituary.—Dr. Charles Wesley Purdy recently died at Chicago of a complication of diseases, caused by overwork. He was born in Kingston, Ontario, in 1846, and was graduated from the Queen's University with high honors. Dr. Purdy made a life study of diseases of the kidneys, and wrote several books on the subject. He received several degrees from the Royal College of Physicians and Surgeons of Canada.

Rev. Charles E. Conrad, M.D., died last week at Quincy, Ill., aged eighty-one years. He was born in Siberia, and educated for the church and medicine at Berlin; went to British India in 1848, and, as the missionary who could heal, was sought after by thousands of the natives. He established asylums for lepers and epileptics at Lohordagga; was in Calcutta during the Sepoy outbreak, and in 1853 came to America, settling in Quincy. He established four flourishing Evangelical churches in that section and retired about three years ago.

Dr. Benjamin Brown, of Chicago, died January 17th, after a year's illness, aged sixty-six years. He was prominent both as a physician and in Republican politics in Chicago.

Omaha Afraid of Small-Pox.—Thirty-two hundred children in the Omaha public schools must either bare their arms to the vaccine point or discontinue their school attendance. Nine cases of small-pox have been reported this month. Ten last month.

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CORRESPONDENCE.

A CORRECTION.

To the Editor of the MEDICAL NEWS:

DEAR SIR: I beg leave to amend the item in "Echoes and News," page 64, January 12th, 1901, under the caption "Death from Strychnine." The inmate of the Montefiore Home, a locomotor ataxic, died on Saturday, the 5th inst., after the administration of the dose $^1/_{30}$ of a grain, not *gram*, as stated in the source from which your note was taken. The order was given to administer $^1/_{30}$ of a grain of strychnine with antipyrin and acetanilid —a dose which he had taken on previous occasions. He died the same afternoon.

EDWARD S. PECK, M.D.,
President of the Medical Board of the Montefiore Home.

New York, January 15, 1901.

OUR LONDON LETTER.

[From Our London Correspondent.]

LONDON, January 1, 1900.

THE VITAL STATISTICS OF LONDON—A DIMINISHING BIRTH-RATE—THE DANGERS OF "GEYSERS" IN SMALL UNVENTILATED BATH ROOMS—FATAL ACCIDENT—THE ANNUAL REPORT OF THE SANITARY COMMISSIONER FOR THE PRESIDENCY OF BOMBAY FOR 1899—96,000 DEATHS FROM PLAGUE—THE DANGERS OF CELLULOID COMBS—SEVERE CASE OF BURNING.

THE report of the Medical Officer of Health for London has just been issued. It deals with 1899, for the compilation and collation of the statistics occupy the officials nearly a twelvemonth. The variations in the rates of marriages, births and deaths for the last half century are shown in a very striking manner by means of diagrams. Speaking generally, the rates of births, marriages and deaths have been lower in the second half of that period than in the first. Up to 1877 the marriage rate was 18.9 per 1000; since then it has been constantly lower, reaching the lowest level in 1887 and 1888, rising sharply in 1896 and 1897, and almost attaining th previous mean in 1898, but falling back last year to 18.4. The number of children born in 1899 was 133,585, giving a birth rate of 29.3, the lowest on record. Up to 1885 the mean was 35.5. The statistics of England and Wales show a similar diminution of the birth rate. In 1899 the deaths in London were 87,819, giving a rate of 19.3 which is below the average, 22.6.

A fatal case showing the dangers of using geysers in small unventilated bathrooms has occurred. A boy, aged fifteen, took a bath under these conditions. Some time afterwards a noise was heard, and the door was therefore broken open. The boy was found lying on the floor insensible. Medical aid was summoned but death took place in the afternoon. When the door was opened, the water in the bath was still warm, but the geyser was turned off. The only possible ventilation was by the window which was closed. The geyser had been in use 2½ years and was frequently cleaned. There was no smell in the room. Another person had taken a bath that morning and the geyser had worked perfectly well. The doctor who was called found the boy comatose. Oxygen was administered without avail. Death was due to carbonic oxide poisoning. The room was too small for a bathroom, measuring 8 x 8 x 4 feet. An expert called at the inquest testified that the flame was an ordinary gas jet and that the geyser worked perfectly well. The fatal result was evidently entirely due to the small size and non-ventilation of the room.

The annual report of the Sanitary Commissioner for the Government of Bombay for 1899 has a novel and melancholy interest. Its brightest feature is the reduced death rate of the European civil population, which was 12.52 per mille, against 13.14 in the previous year. Of the 231 European deaths in the Presidency, 16 were from plague and 12 of these occurred in the city of Bombay. The European birth rate was low—11.96 per mille. Eurasians on the other hand showed a rise in mortality, their death rate being 21.72, as against 19.84; in 1898 the birth rate was 19.49. In the native population there was a great increase of both births and deaths, as compared with the previous year. Violent variations in these rates have been frequent in Western India since the introduction of the plague. Thus in 1895 the births and deaths in the Presidency were 674,000, and 538,000; in 1896, 691,000 and 596,000; in 1897, 629,000 and 749,000; in 1898, 582,000 and 548,000; in 1899, 685,000 and 672,000. The birth rate of the native population was 36.42 in 1899, as against 30.94 in 1898; the death rates in these periods were 35.7 and 29.16. Terrible mortality returns are recorded in the urban population, thus at Nosch the death rate was 153, in Poona 128, at Karad 99, and at Harachi 95. The death rate of Bombay city was much lower than these figures—69. Ninety-six thousand people died of plague in the Presidency in 1899, the largest number yet recorded. Cholera claimed 8579 victims, twice as many as in the previous year, but far fewer than in many years of the last two decades. The small-pox statistics are eminently satisfactory and are a testimony of the value of the vaccination work done in the Presidency. There were only 1946 cases of small-pox, the lowest with two exceptions in the past 12 years. The deaths from fever were 228,000, which was below the decennial mean number. The mortality from dysentery and diarrhea was 74,736, a rather alarming increase; 2772 people died from drowning and 1444 from snake bite.

The dangers of celluloid combs is forcibly illustrated by a case which has recently occurred. A lady was sitting before a drawing-room fire, when the comb in her head became ignited. The flames were extinguished with difficulty and not before she was severely burned. She is progressing favorably but is not fit to be moved. Celluloid, which is a mixture of gun-cotton and camphor, is inflammable at a low temperature and therefore extremely dangerous. Several serious accidents have previously occurred from its use—one from the ignition of a celluloid collar.

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TRANSACTIONS OF THE FOREIGN SOCIETIES.

British.

EMPHYSEMATOUS GANGRENE—NON-MALIGNANT CANCER—ENDOTHELIOMA OF THE BREAST—CYSTIC ADENOMA OF THE SUPRARENAL BODIES—SARCOMA OF THE STOMACH—MALARIA—PROTECTION FROM MOSQUITOES IN MALARIOUS DISTRICTS—RETROFLEXION OF THE GRAVID UTERUS—IMPERFORATE ANUS—ANGIOMA SCROTI—NON-RHEUMATIC NODULES.

E. M. CORNER and H. D. SINGER contributed a paper on the bacteriology of acute emphysematous gangrene at the Pathological Society of London, December 4, 1900, stating that it must be differentiated from hospital gangrene and the gangrene due to injuries to the vessels, and emphasizing two points, (1) the established identity of the bacillus aerogenes capsulatus and the bacillus emphysematosus, (2) the clinical distinction between cases due to mixed aerobic infection and cases due to mixed anaerobic infection. Under either of these classes both typical and atypical cases are found. Such varieties appear to be due to the differences in the virulence of the infecting germs, which had been experimentally proved to vary between non-pathogenic and highly deadly organisms. The prognosis in the cases of mixed anaerobic inoculations is better, as a rule, than in those of associated aerobic infections, probably because in the former much more gas is generated. This means an earlier diagnosis and a prompter treatment. The management of these patients depends upon the diagnosis. If this be early free incisions and continuous antiseptic bath are enough, if late or this plan fails amputation wide of the zone of infection must be promptly done. The variations in the treatment as recommended by many authorities probably are due to wide range of differences in the nocuousness of the bacilli. There are cases in which amputation was done through the infected tissues, which always presented recurrences. Hence, only healthy tissue should be included in the flaps. Three kinds of bacilli are recognized, of which the bacillus aerogenes capsulatus is the most common.

S. BONTOR described a case of non-malignant cancer of the left breast in a female who died at the age of seventy-seven years of asthenia, after having suffered the growth for twenty-three years, without ulceration, pain, secondary deposits in any of the lymphatic glands or internal viscera, with, however, similar or secondary growths in the opposite breast and in the skin of the abdomen. When the patient was fifty-four years old the growth appeared as a hard lump in the breast and the skin became scaly. There are other such cases recorded in literature. This was confirmed as cancer by a macroscopical and microscopical examination.

A. G. R. FOULERTON exhibited macroscopic and microscopic specimens from a case of endothelioma of the breast and glands of the axilla removed from a woman, fifty-six years old, who had had the neoplasm three years. All the specimens were of uniform deep red color. The microscopical appearances were of rows of cells supported by fibrous trabeculæ and forming the walls of blood-vessels from which extravasation had in many instances taken place. He considered that as advantageously distinct from the carcinomata and sarcomata should be classified the endotheliomata which arise from the small and large lymph-spaces of the body, namely, blood-vessels, lymph-channels and nodes, pleura, pericardium, peritoneum, etc.

H. THURSFIELD showed a stomach removed from a four-year-old child the seat of a primary diffuse sarcoma. Growths later than that in the stomach had appeared in the jaw and thyroid gland. At the necropsy examination of these was denied. The stomach-wall was diffusely and greatly thickened and its cavity enormously dilated. It was a small round-celled sarcoma. Statistics show that primary sarcoma of the stomach is very rare and even secondary sarcoma is not common. When present its form is discretely nodular, rather than uniformly diffuse. Four cases are mentioned in the annals of the society and there is one specimen very like the author's in the museum of the Royal College of Surgeons in England. This case, however, is unique in its occurrence in a really young child.

P. MANSON, at the Royal Medical and Chirurgical Society, December 11th, communicated a brief résumé of the parasitology of malaria. In 1896 and 1897, when this subject was widely discussed, it was known through what cycle the organism passes within the human body, but it was known definitely through what cycle it passes without the human blood. Since the disease is essentially one of the blood, and since it is specifically epidemiologically and geographically distributed the mosquito was looked upon as a very probable host for the organism. After two or three years of labor Ross demonstrated conclusively the truth of this theory. He first established the endogenous and exogenous phases of the coccidium Schübergii in bird malaria and then the strict analogy to it of the hemomenas precox, the parasite of estivo-autumnal fever. This organism in man has an asexual existence, attacking the red cells, developing, being liberated and in the new generation attacking other red cells. In the mosquito, however, it has a bisexual life. The place of the malarial parasite in zoölogy is difficult as yet to fix, many of its forms have several names and some have none. Under recent observations the eimeria is the endogenous phase of the coccidium. Two things are necessary to complete our knowledge of the life-history of these organisms, first, what circumstances determine the distinction of the merozoites and whether they proceed to the mosquito phase (bisexual cycle) or to the human phase (Golgi cycle); and, second, what becomes of the parasite during the long interval which sometimes elapses between the infection and the appearance of the attack. It is also desirable to know why crescents are so common in England and in the late autumn in Italy and not in tropical Africa and in the summer and early autumn in Italy. Among the mosquitoes only the *Anopheles* had been identified with infection, of these forty-eight species are known. The organism has been found in *Anopheles funestus, costalis, claviger, pseudopticus,*

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superpictus, bifurcatus, and the as yet unidentified species of Ross. None of the two hundred and fifty classified species of *Culex* has been found an efficient carrier of the malarial parasite, but very few have been tested, namely, *Culex mimeticus, pipiens, teniatus, nemorosus, malariae* and three unidentified species of *Culex* experimented with by Daniels in British Central Africa. Recent observations of the natives in malarious districts show that seventy or eighty per cent. of children under one year contract the disease. Thereafter until the tenth or twelfth year the number diseased gradually declines, when a kind of immunity to the disease is established. Among postmorten examinations it is found in these regions that practically all deaths of malaria occur in children. Malarial pigment was present in twenty-five per cent. of all cases over one and under twelve months of age, in none under one month old, in fifty-four per cent. of those over one and below two years, in eighty-one per cent. of those between two and five years, in eighteen per cent. of adults above thirty years of age and in steadily decreasing ratios with each ascending decade thereafter, out of twelve hundred and eighty-nine cases examined for it by Daniels. Prophylaxis against malaria included four points, to avoid the natives, to take quinine, to destroy mosquitoes and to protect from mosquitoes. Absolute protection is an impossibility, but relative protection is both possible and of immense value.

L. SAMBON and D. C. Low reported their experiments during the expedition in behalf of the Colonial Office and the London School of Tropical Medicine in the Campagna and in London. The idea of a relation between the mosquito and malaria existed even among the ancients and is found to-day among the tribes of malarial East Africa, where the same word means the fever and the gnat. Twenty years ago Manson proved that the mosquito is the host of the filaria Bancrofti and later Smith and Kilbourne that the pirosoma bigeminum is transmitted among cattle by the common tick. The experiments carried out by the authors were planned by Manson and consisted in the following parts: First, mosquitoes were bred, reared and infected in the Campagna and after several failures were finally successfully shipped to London. Here two healthy individuals allowed themselves to be bitten by insects of different shipments and each developed typical benign forms of malaria. The second feature of the observation was carried out in Italy by the speakers. In a special cottage designed to have the windows and doors open at all times, but carefully closed against the insects by fine netting, the observers lived throughout the malarial season, July 15th to October 15th. They took care not to go out earlier than an hour after sunrise or later than an hour after sunset, and at first wore veils when they were out-of-doors. This protection was finally dispensed with and the danger of being bitten was found to be infinitesimal. The conclusions they felt absolutely established are that only the mosquito is capable of transmitting the malarial organism, that protection from its bite means immunity, that such protection is easily obtained and that its maintenance does not interfere at all with the ordinary avocations of life.

W. J. SINCLAIR, at the Obstetrical Society of London, December 5th, contributed observations on the diagnosis and treatment of retroflexion of the pregnant uterus. The symptoms give an almost unmistakable syndroma and the treatment in a series of fifteen recent cases he had found to be simply the introduction of a watch-spring pessary after emptying both the bladder and the rectum. If the patient lie upon the side or as nearly as possible on the stomach, in a few hours a reposition will occur. In one patient the womb was held down by a fibroid tumor on its posterior wall, and in the cul-de-sac of Douglas. Abortion may be caused by a uterus so imprisoned. Abdominal section for a gravid uterus retroflexed is to be deprecated, but after an abortion ventral fixation is much recommended.

ALBAN DORAN in the discussion agreed that irritability of the bladder and retention of the urine are important diagnostic signs. Among recently reported instructive cases he names that of Konrad (Budapest) where relief came too late. Sloughing of the vesical mucosa and death three days after reduction occurred. Also Unterberger where pressure on the urethra had distended the bladder and finally the urachus. Also to Gemmell's (Liverpool) patient where abdominal pain and retention of urine led to the diagnosis of retroflexed gravid uterus. A fibroid was found to be the cause, was enucleated by abdominal section and the pregnancy continued to term. Szants reported a case where the relaxation due to typhoid fever was at the bottom of the malposition, manually reduced, and of its subsequent recurrence also treated in the same way.

J. I. PARSONS has found the air-ball pessary very serviceable and any slow method better than immediate reposition by hand. Adhesions in this malposition are very common, but he had never found such a uterus pregnant. If he ever did, abdominal section, liberation and ventral fixation would be the treatment.

A. L. GALABIN considered immediate taxis by far the best treatment, although the gradual pessary method is valuable. He places the woman in the knee-elbow position and first from the vagina, then, if failing, from the rectum, applies the necessary manual pressure. In only five per cent. of all his cases has anesthesia been necessary. Twenty-five years ago, without admission to the hospital and in the out-patient room without anesthesia, he was accustomed to reduce this deformity and never found any trouble except in the above range of cases. Abortion had never followed immediate taxis, but the slow method. Special pressure pessaries, he thought, are best in maintaining a reduction when recurrence threatened or in completing a partial one.

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A. H. TUBBY, at the Society for the Study of Disease in Children, November 16th, exhibited an infant who at birth exhibited an imperforate anus and a rectovaginal fistula through which all the movements occurred. At the operation a probe was passed into the fistula and to the apex of the rectal cul-de-sac and exposed through an incision at the site of the normal anus. Then this incision was enlarged and the rectal mucosa was brought down and with some difficulty sutured to the lips of the cut. Unfortunately the stitches tore out and three months later the operation was repeated and succeeded admirably. No effort had been made as yet to cure the fistula itself. The same speaker also presented an angioma removed from a five-year-old child. It involved the whole left half of the scrotum as high as the external ring, was tough, inelastic, without impulse or translucency, reducible in size by firm continuous pressure, and corrugated on its surface as if by large deep varices. After removal it was found to be made of venous sinuses having their origin in the left corpus cavernosum near its root and imbedded in much connective tissue and fat.

G. CARPENTER showed a three-and-a-half-year-old-boy who presented many subcutaneous fibrous nodules. There was no personal of family history of rheumatism, no cardiac lesion, only slight enlargement of the liver and spleen. The sites of the lumps were chiefly the extensor surfaces of the hands, wrists, feet and ankles. The first appeared during his second year of life at about the fourteenth month, and since November, 1898, while under the speaker's care, had increased in number. Galvanopuncture had decreased individual nodes, but nothing seemed to prevent the appearance of new ones. Radioscopy failed to reveal bone disease. He has seen several cases of such nodes not of rheumatic origin, but never in a child so young, nor so long under observation. Microscopically they consisted of fibronuclear tissue.

SOCIETY PROCEEDINGS

NEW YORK ACADEMY OF MEDICINE—SECTION ON PEDIATRICS.

Stated Meeting, Held Thursday, December 13, 1900.

Thomas S. Southworth, M.D., Chairman.

Dilatation of Colon.—Dr. William L. Stowell presented a patient suffering from marked dilatation of the colon, which had persisted for some seven years. The patient is at present a boy of nine years, whose history is about as follows: He was nursed until he was a year old and had reasonably good health. During his second summer, which came in the nursing period, he had very severe summer complaint. For a time his life was in danger. He seemed to recover completely, however. After he was weaned he was given more oatmeal and other starchy substances than usual, yet he suffered from almost constant constipation. This became more and more obstinate as time went by, and for the few years past he has not had more than an average of one stool a week.

When the patient first came under observation the abdomen was found to be greatly distended and the transverse colon stood out very prominently across the region of umbilicus. The bladder also was distended and there was a history of enuresis at night. When the constipation had endured for several days the boy became dull and did not respond to stimuli. This more or less comatose condition seemed to be the result of intestinal autotoxemia. Occasionally the boy passed some scybalous masses, but when the bowels were moved they were often semi-fluid in consistency, although very dark in color. There was no difficulty in securing a free movement of his bowels when he came under observation, although they had not been moved for eight days. A simple high injection sufficed to bring away a large amount of fecal material. What came away had very much the appearance of city mud, black and glutinous in character, semi-fluid in consistency and with occasional hard masses in it. Before the bowels were moved his abdomen measured 71 c. m. in circumference. After the movement it measured 60 c. m. at the level of the umbilicus, which is 16 c. m. more than in a normal child of his age and weight.

Problem of Etiology.—No very definite cause could be found for the condition. There was no stricture at the anus nor higher up in the rectum. Examination with a bougie as far up as the sigmoid flexure failed to show any obstruction. The rectal pouch was very much dilated. The blood count failed to show the presence of any chlorosis and the anemia was not very marked and was probably due to the constipation. The plausible theory for the origin of the dilatation of the colon seems to be that the muscle fibers of the large intestines became overstretched by the accumulation of feces and thus peristalsis was absent. Nothnagel describes an autopsy on one of these cases in which the thickness of the muscular wall of the intestine was found to be one-fourth that of the normal muscularis intestinalis. One extreme case has been reported in which the colon was so much distended that it was ten inches in circumference When this patient came for treatment the first thought was of some form of malignant stricture of the intestine. No symptoms of this could be found, however, and the fact that the bowels were moved easily by enema speaks against this theory of origin. The boy's family was not a dyspeptic one, there were no signs of nervous disease in members of the family, nor were they constipated. There exists some distention of the stomach in the case and this with the noc-

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turnal enuresis seems to point to a tendency to relaxation of all muscle fibers in the hollow viscera. The treatment consisted of the administration of belladonna, strychnine and aloin, with the idea of toning up the muscular fibers. For the present at least the bowels will have to be cleared frequently by enemata. When the bowels are free from accumulated feces the boy is reasonably bright, and his condition shows that the mental dulness at other times is pathological and not natural.

In the discussion Dr. Koplik said that the appearance of the boy's abdomen was very like that pictured in a recent article of Dr. Murchison's. The distention of the upper abdomen was characteristically similar. When Dr. Murchison's patient was put under an anesthetic, the tumor disappeared and the doctor concluded that it was a phantom tumor. Here there is objective evidence of the accumulation of fecal material. The possibility of its exaggeration by nervous influences must not be forgotten. The fact that the stomach is also distended may prove an important factor in the case. The extent of the stomach dilatation should be carefully ascertained. As the patient's abdominal walls are thin, this could be determined by passing the gastrodiaphane.

Colonic Stricture.—Dr. J. J. Walsh said that there is at least one case on record in French medical literature in which a French army officer who lived to be fifty-four had a movement of the bowels not more than six to eight times a year. The condition began in earliest infancy and the patient was neither impeded in his career, nor did he seem to suffer any serious inconvenience from his unusual retention of feces. In this case it was found at autopsy that a valve-like membrane occurred just above the rectum, which practically occluded the intestine. Above this there formed an immense colonic pouch in which the accumulation of feces took place. When the amount of feces became excessive, the distention of the colon made the valve incompetent and the feces found their way past it. In the present patient it is not easy to escape the idea that the severe summer complaint from which the child suffered in its second year may have had something to do with the constipation which developed. A stricture high up in the descending colon, or near the splenic flexure might account for the condition.

In closing the discussion Dr. Stowell said that the most careful examination failed to reveal any evidence of stricture and that a large bougie could be passed easily up to and apparently beyond the sigmoid flexure.

Status Lymphaticus.—Dr. David Bovaird presented the specimens from a nursling who had died suddenly with enlarged lymphatic structures, lymph-nodes and thymus. The child was about four months old and was being nursed by its mother in a foundling asylum. It had never been ill. It seemed to be in perfect health when its mother put it down for a few minutes to go to breakfast. The mother had only just begun her meal when the nurse noted that the child was having a convulsion. Before anything could be done it was dead. At the autopsy it was noticed that the child was suffering from craniotabes. This softening and thinning of the skull-bones involved not only the occipital, but also the parietal region. The whole cranial vault was very thin. There was also slight enlargement of the epiphyses of the long bones.

The thymus gland was found to be very large. It covered the heart except for a small part of the apex and it reached down and was attached to the diaphragm. Both its right and left lobe were enlarged, the left more so. Moderate enlargement of the cervical nodes was found, and there was marked enlargement of the bronchial nodes. The mesenteric nodes were very much enlarged and the spleen was hypertrophied and soft in consistency. The solitary follicles all along the intestine were enlarged and prominent. Peyer's patches were moderately enlarged.

Thymic Asthma.—In the cases of sudden death in which the thymus was found to be as much enlarged, as in this case, the unexpected fatal termination was formerly attributed to the enlargement of the thymus alone. In recent years enlargement of other lymphatic structures has been found to accompany the large thymus so constantly that the latter is now considered an important factor in the fatality. The *status lymphaticus* is now set down by many pathologists as at least the predisposing cause to sudden death.

There are undoubtedly certain cases in which the thymus alone must be considered as responsible for the sudden death. In some of these cases a more or less lengthy period of difficulty of breathing precedes the fatal termination. Some cases in which dyspnea asserted itself very seriously have been relieved by removal of a portion of the thymus gland. There are many cases, however, in which absolutely no symptoms precede the sudden fatal issue. In these there seems every reason to think that the lymphatic enlargements are a contributing cause of death. The mechanism of the etiology is not known.

Thymus as Principal Cause.—In the discussion Dr. L. Emmett Holt said that there is scarcely any question in pediatrics on which more light is needed than this one of sudden deaths in infants. They occur with surprising frequency. When they occur in hospitals or institutions they do not produce the sensation that is usual in private practice. Dr. Holt has recently seen four cases that were somewhat similar to this one recorded by Dr. Bovaird. He is not convinced that the general lymphatism is of more importance in the production of the sudden death than is the enlargement of the thymus alone. It is not an unusual thing at autopsy on infants to find many of the glands enlarged. This is found very often in cases that have died a lingering death. In the sudden

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deaths the distinctive feature at autopsy is the enlarged thymus. How this produces death is not clear. A distended stomach for instance pressing up against a heart already laboring because of the pressure upon it of an enlarged thymus may cause the organ to stop entirely. Sometimes the distention of the intestines with gas may furnish the accessory etiological element necessary for the stoppage of the heart.

Edema of the Brain.—Dr. Sara Welt Kakels said that she has recently seen one of these cases of sudden death in the Mt. Sinai dispensary. The little patient suddenly became cyanosed, threw its head back and died in its mother's arms. At the autopsy, edema of the brain was found, as well as general lymphatic enlargement and enlarged thymus. It is important to note very carefully then in these cases whether the edema of the brain may not be the direct factor in the production of the sudden death.

Bronchial Abscess and Sudden Death.—Dr. Dwight Chapin said that it must not be forgotten that there are other causes of sudden death in children besides the lymphatic diathesis and the enlargement of the thymus. Some of them are obscure unless careful autopsy is made. In the case of a child who died suddenly some years ago, while suffering from a slight bronchitis with an average amount of cough the death took place during a slight coughing fit.

Autopsy showed that the death was due to rupture of an abscess in the mediastinum. The abscess began in a bronchial gland which had broken down as the result of infection.

Lymphatism and Fulminant Infection.—Dr. James J. Walsh said that any one who saw several of these cases of the so-called lymphatic diathesis could not but be impressed with the fact that the enlarged glands might be due to some infective process. In fatal cases of infectious disease in children during the first two years when the thymus gland is active, the thymus is often found enlarged at autopsy. The opinion has been advanced that the presence of the thymus gland during the first two years of life makes infants less liable to contract infectious disease than after the disappearance of the thymus. One of the functions of the thymus gland seems to be the manufacture of leucocytes and the protective influence of leucocytosis is well known. The question occurs then whether these sudden deaths in children may not really be due to some fulminant infection that becomes generalized through the circulation. The enlargement of the lymphoid tissues throughout the body and also of the thymus gland would then be nothing more than a protective reaction on nature's part against the advance of the infection.

In closing the discussion Dr. Bovaird said that no dilatation of the stomach existed in his case, which might account for the accessory mechanical factor necessary to produce stoppage of the heart. Edema of the brain was not found, although this was carefully investigated. No abnormality, pathological, or congenital, of any other organ was noted, although scrupulous care was exercised in the examination.

Diagnosis of Infantile Adenoids.—Dr. Walter F. Chappell said that the diagnosis of the presence of adenoid hypertrophy was much more difficult in infants than in children of an older growth. There are objective and subjective symptoms. Among the objective symptoms are mouth-breathing, snuffling, the existence of chest deformity and the peculiar expression of countenance so common in these children. Among the subjective symptoms are difficulty of breathing, headache and slow development of the intelligence. Dr. Chappell does not believe that many children are born with congenital hypertrophy of the adenoid tissue of the pharynx. In the last few years he has examined 437 children, among whom 45 under the age of seven months presented symptoms of respiratory obstruction in the upper air passages. In none of these cases were adenoids present. In a large number of post mortem examinations on new born children he has never seen adenoids present. The fact that adenoids are not congenital is important since it enables us to realize that they are caused by certain pathological factors and that it is perhaps possible so to modify pathological conditions that the development of adenoids may be prevented.

Among the causes of respiratory obstruction found in infants were lymphatic and lithemic conditions, syphilis, congenital atelectasia of the lungs, high-arched palate, small postnasal space, the projection of the bodies of the cervical vertebræ into the pharynx so that the breathing space was very much narrowed, besides some rare anomalous anatomical conditions.

Other Simulants of Adenoids.—Congenital atelectasia of the lungs resembles adenoids quite closely when it is not very extensive. If there is considerable atelectasia present then of course the diagnosis is not difficult. Small amounts require the most careful examination of the chest to determine their presence.

The congenital high palate is a much more frequent source of difficulty of breathing than is usually thought. This is sometimes said to be associated with adenoids but may exist independently and the anatomical conditions of the soft parts associated with it interfere with the breathing.

Congenital hypertrophy of the tongue is not a frequent source of difficulty in breathing and yet it must be borne in mind. Dr. Chappell exhibited a portrait of a marked case of hypertrophy of the tongue in which there had been difficulty in breathing for many years. At times when the large tongue becomes actively engorged with blood and increases the respiratory difficulties, the application of a leech may do some good. Enlargement of the tonsils may cause mouth-breathing, snoring and difficult respiration. This will lead to the suspicion of the presence of adenoids, although they may not

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be present. The differential diagnosis of the two conditions is important. Their confusion has undoubtedly led to the idea that adenoids are much more frequent in children than they really are.

Hypertrophic rhinitis is quite common in children and produces a set of symptoms resembling those due to adenoids. It must not be forgotten that this hypertrophy often accompanies adenoids and the discovery of one affection should lead to an examination for the other.

Adenoids in General Practice.—Dr. Frances Huber said that advanced cases of adenoids are very easy of detection. Small adenoid hypertrophy produces little symptomatic disturbance. When colds are frequent in children and with each cold there is an enlargement of the tonsils and some enlargement of the glands of the neck, adenoids will usually be found to be present. Difficulty of respiration in children should not be attributed lightly to anemia, or nervousness, but should raise a suspicion of adenoids. There are certain external symptoms that may also lead the practitioner to suspect the presence of adenoid hypertrophy. There is a form of trachoma without involvement of the cornea that is sometimes seen in connection with adenoids. There is a prominent vein at the root of the nose which may call attention to the adenoid condition. The persistence of enlargement of the cervical glands, or the frequent recurrence of enlargement is also a suspicious sign. Where frequently recurring attacks of nasal catarrh come on, adenoids should be looked for. Sometimes the little patient likes to throw its head back over the arm of the nurse, because this is an easier position for respiration these cases. Irrigation of the pharynx sometimes relieves the symptoms. Cases with crowing respiration especially just during and after feeding often have adenoids. The diagnosis should be made with the finger rather than the mirror.

Practical Treatment.—The most important measure for the prevention and the cure of adenoid hypertrophy is attention to the general health. During exacerbations of the difficulty of respiration nasal irrigation will often give relief. Marked symptoms of adenoid obstruction, however, if unrelieved by operation will usually leave permanent symptoms of nasal obstruction. For a week before operation is performed, irrigation of the posterior nasal space should be practiced. In irrigating no force should be employed, or otitis media will result. Operations should be done in the intubation position with a sheet wrapped around the patient, or with the head between the operator's knees. In Germany and France no narcosis is employed, but in this country many operators prefer to use either chloroform or ether, especially the former. Halstead of Syracuse uses ether and a small amount of atropine. In this way there is less vomiting afterwards. Evans of Louisville reports a death during the operation for adenoids when the anesthetic employed was nitrous oxide. As a rule the operation can be done without an anesthetic and even this risk avoided. If tags of adenoid tissue are left after the operation, it may be repeated. Sometimes these tags of tissue are not remnants, but are new growths of adenoid tissue, since the operation. Children suffering from the hemorrhagic diathesis, or that show a tendency to the formation of petechiæ should not be operated upon. If hypertrophy of the turbinate structures of the nose exists, as well as enlargement of the adenoid tissues in the pharynx, then all the symptoms will not disappear after the operation. These two conditions are associated oftener than is thought and their association is frequently a source of disappointment after adenoid operation.

Adenoid Simulants.—Dr. Koplik said that a number of conditions in children simulate adenoids and cause operations to be needlessly done. He has seen several cases of swollen tongue that caused the mouth to be open and so produced difficulty of respiration, that might lead a careless observer to think of adenoids. He has seen bony obstruction in both nares through which not even the finest probes could be passed. This was an anatomical anomaly and an operation for adenoids would have been absurd. Operation for adenoids is not as simple as is sometimes thought. In choreic children especially great care should be exercised in the operation. The removal of the lymphoid tissue opens up large absorbent spaces through which reinfection may take place and an increase of endocarditis follow.

Otitis Media and Adenoids.—Dr. Wendell Phillips said that assurance in the diagnosis of adenoids was very important. Ear symptoms are often present. Recurrent suppuration of the middle ear often means adenoids. A single attack may be due to other causes. Digital examination for diagnosis is inadvisable for two reasons—First, the finger is not properly sterilized, the adenoid tissue breaks down when touched and may easily be infected; the second reason is that the little patient always leaves the doctor's office his mortal enemy. Always examine with a mirror and tongue depresser and explain to patients just what you are going to do, even though they may be very young. Where adenoids are allowed to remain adhesive bands form, which often cause the orifice of the Eustachian tube to be permanently patulous and so predispose to ear trouble. Heredity is an important element in the etiology of adenoids.

Gift by Dr. Herman Knapp.—Deeds were recorded conveying to the New York Ophthalmic and Aural Institute the property adjoining its present building. The conveyance is recorded as the gift from Dr. Herman Knapp, who for many years served as the head of the staff of attending surgeons of the institution.

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THE SOCIETY OF THE ALUMNI OF THE CITY (CHARITY) HOSPITAL.

Stated Meeting, Held October 10, 1900.

The President, W. L. Baner, M.D., in the Chair.

(*Concluded from page* 114.)

Osteo-Arthropathy.—The patient showed a photograph of his brother, whose finger nails were similar to his own. His father had died in mid-life of cholera. His mother was still living and in pretty fair health, although she is alleged to have rheumatism. The fellow had a somewhat bronzed skin, leading one to suspect Addison's disease, and where his collar and waist band had gone around his body, there were dark lines. He had during the speaker's service, a low run of fever, which one would expect with such a large abscess. His blood showed nothing but the leucocytosis which accompanies extensive suppuration. The pus from the abscess had been examined for tubercle bacilli, but none were found. In Hare's Progressive Medicine for 1900 it is stated that only 140 cases of acromegaly have been so far reported. So far as the speaker knew, there had never been a case of pneumonic osteo-arthropathy reported in this country. One writer had declared that it is really a form of acromegaly.

Dr. Carr thought it would be of interest to find out if the adrenals were affected. It would be well to watch the condition of the man's strength and vitality. It might be that he had enough tuberculous history to give him tuberculous disease of the adrenals. The question would come up as to what connection it would have with his bronzed skin.

Dr. Bissell stated that he used to find these club-fingers a symptom in the consumptive ward of Charity Hospital, and that they were there considered to be symptoms of heart trouble as well as of tuberculous disease of the lungs.

Dr. Newton said one did not see such broadening of the nails in an ordinary case of phthisis. They were somewhat curved. The terminal phalanges were spongy in appearance, judging from the skiagraph. He should have stated also that the internal condyles of both femora were enlarged, as well as both internal malleoli. But the maxillary bones and zygomatic arches were apparently not enlarged, as is usual in acromegaly.

Eustachian Catheter.—Dr. McAuliffe said that in using a nasal catheter with the conventional curve, it was sometimes impossible to pass it, owing to large turbinates or anterior nasal stenosis. In order to distribute this angle along the curve of the catheter, he had been experimenting for some time, and found that a curve like the one he presented would pass into the Eustachian tube where the ordinary one would not enter. He had been gratified to see how easily it passed. Most of the directions given for the passage of the Eustachian catheter contained the old rules that they must either hook on the septum or hook on the palate before rotating, and advance a trifle; but by guiding this catheter tip along the floor of the nose, as soon as it touched the descent of the soft palate, the instrument was turned, and by the pressure of this very curve against the septum it slid into place without going through the ordinary manipulations. In a nervous patient it sometimes was passed with twice the celerity as with the other curve.

Pregnancy in Both Cavities of a Bilocular Uterus; Abortion.—Dr. Brooks H. Wells reported this case, which occurred twelve years ago. Mrs. X., mother of several children and about three months pregnant, was examined by a prominent specialist at his office because of uterine cramps and bleeding. He found protruding from the dilated os an ovum, which he removed, packing the empty uterine cavity with gauze to control a rather free bleeding. On calling the next day, he found the woman having quite severe pains with some hemorrhage, and on removing the gauze an ovum presented itself. Rather surprised by this unexpected event, he removed the ovum with the finger and the curette, and found by digital examination what seemed a hole, the diameter of a finger, in the right side of the cervical canal. A sound passed into this showed that the patient had a septum dividing her uterus into two cavities.

Pregnancy in the Right Cavity of a Bilocular Uterus; Abortion.—Dr. Wells also reported this case. Mrs. B. S., German, stout, and a multipara, consulted him in June, 1890, for the relief of bleeding and uterine pains, and stated that she thought she was pregnant and aborting. Examination disclosed a uterus enlarged and soft, as if from a pregnancy of eight or ten weeks. The cervix was soft and patulous, and there was a slight bloody discharge. It was decided that the uterus should be cleaned out, but, on passing in a small curette and ovum forceps, only an empty cavity was found. Somewhat puzzled, he packed this cavity with a strip of sterile iodoform gauze and sent the patient home. Her pains continued and the next day he examined her under anesthesia and found an ovum protruding through an opening in the right upper part of the cervical canal. This ovum was removed with some difficulty and her pains and hemorrhage ceased. Both of these cases were of pregnancy in the more rudimentary horns of bilocular uteri, and are interesting because of the diagnostic difficulties they presented.

Dr. George H. Mallett agreed with Dr. Wells in his handling of the case. Lately he had rather wandered from the use of much gauze, as it blocked up the secretions rather than promoted drainage. Its only use was to increase the contraction of the uterus. A hot irrigating fluid would usually do that. Unless there was much hemorrhage, he did not use the gauze. Dr. Wells' solution of the case was probably the correct one, as it must have been a double uterus to sustain all the manipulation. He had known cases where sounds had been passed repeatedly, and still the patients have gone to term.

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Resistance of Pregnant Uterus.—Dr. Alvah M. Newman reported a case to show what a pregnant uterus will stand at times. The patient was in the habit of introducing water by means of a fountain syringe whenever she became pregnant. At times it was successful; and it was never followed by any ill effects when she did not abort. Between the ninth and twelfth week of her last pregnancy she used about four pints of wood alcohol by means of a hard rubber syringe. The introduction was easy owing to a second-degree procidentia. The alcohol produced severe pain each time it was used (4-6 ounces), but no other ill effect. The speaker delivered her one month beyond the expected date of confinement of a large child. This delay may have been due to an interruption of development by the use of the alcohol, although it is quite possible that she may have made a miscalculation. Dr. Newton also referred to the case of a servant, who came last summer to New York and had an abortion performed. She returned to Montclair and was sick for several weeks in the Mountainside Hospital. In curetting the uterus, the speaker found a partition through its middle, showing a double uterus. With a curette he pierced what seemed like an inkwell, and evacuated a large quantity of dark blood. She was very septic for about six weeks and was in a bad way when she left the hospital. The speaker saw her a few days ago, and she seemed in fair condition, though not exactly robust.

Interesting Cases in Dispensary Practice.—Dr. William L. Stowell read this paper. (See MEDICAL NEWS, page 90.) Dr. Rupp said he hardly thought that the case of dermatitis exfoliata could be mistaken for erysipelas. As to typhoid fever in tenement-houses being catching, it was a good thing to teach the people *how* it is catching; that is, through filth. The doctors did a sort of missionary work by telling them to be clean. He spoke of one family, where there had been an epidemic. The brother and sister slept in a small room, not large enough for a single person to sleep in. These were both severe cases of typhoid fever. In regard to giving the coal-tar products, that depended on the sense of the man; he had seen two-grain doses in children produce cyanosis, but had never seen any harm done in giving antipyretics to adults or children, though sometimes people were frightened by it.

Dr. Newton thought the proper diet was the most puzzling thing in the treatment of typhoid fever. He lost a case two years ago. The patient was a young officer who came back from Camp Thomas, where they had so much typhoid. The day he died he had been given a raw egg, and had an attack of dyspnea followed by heart-failure, and the speaker thought perhaps this might have been due to indigestion. He had seen another case where eggs seemed to cause death, and had heard other doctors relate similar experiences. He had read an article on typhoid by an English writer, in which he cautioned every one to be exceedingly careful how they altered the diet in typhoid cases, saying that the slightest alteration might turn the scale in some severe cases, and might convert mild cases into severe ones.

Dr. Baner said that patients with typhoid fever were always apt to have relapses, and if they happened to have a relapse after being given solid food, it would be attributed to that. He had seen a number of cases in which the family undoubtedly always thought that death was caused by the patient having had solid food, generally some form of egg food. It was impossible to say whether it really had anything to do with the relapse. One of Dr. Stowell's questions was whether mustard baths shortened the duration of the inflammation. He had seen cases where undoubtedly giving a mustard bath increased the duration of the inflammation, as the lung was so much involved and dyspnea so great that it did not seem as if the child was going to live; a mustard bath lengthened the duration of the inflammation by saving the child's life. In regard to the coal-tar products, if properly used, as Dr. Rupp said, they were very valuable.

Dr. Carr said that lately a good deal had been added to the subject of how to feed a typhoid patient. One of the most recent was an article by Dr. Seibert, on the use of an exclusive soup diet. Dr. Seibert claimed very satisfactory results, both in adults and in children, by this method, basing his claim primarily on the fact that by the use of milk the number of bacteria in the intestinal canal was increased, and in that way there was not only a typhoid infection to treat, but the risk of other infections due to the milk. With soups there was less disturbance, because of less feeding material for the bacteria. He had carried out this treatment only partially, and in cases where soup diet was used at times in combination with milk, it seemed to relieve the flatulence and distention. In the use of an exclusive milk diet in typhoid, physicians would often give the milk rather thoughtlessly, as if the digestion of the typhoid patient was as good as one in ordinary health. Many people never digest milk well. If they took an exclusive diet of milk all day without any exercise, they would be flatulent, uncomfortable and constipated. If milk is given some care should be exercised for the state of the digestive organs. He diluted the milk or peptonized it, or gave koumiss or matzoon. He had never seen any bad effect from the egg as he gave it, the yoke beaten up with sherry wine. He spoke of an old physician whose favorite prescription was an egg emulsion, a mixture of wine and egg, a tablespoonful every two hours. He should question the advisability of giving a whole egg to any typhoid convalescent, because eggs sometimes caused indigestion. During convalescence in typhoid, the heart-muscle was weak, and any distention of the stomach and displacement of the heart, would interfere with its action and perhaps cause death. Dr. Peabody and other clinicians suggested some plans of treatment exclusive of milk. With reference to the typhoid in children, all recognized that it was apt to be less intense in its poison, run a short course,

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and the percentage of mortality was low. Children did well almost invariably without much medicinal treatment. The important thing was to see that they were comfortable and treated symptomatically. They were more likely to be constipated than to have diarrhea.

Dr. L. Marcus said he happened to be in the service of Dr. Seibert in the hospital and could speak personally of the influence of a diet entirely of meat broth. The concentrated beef broth was given to the patients, and usually they were very comfortable and never gave any sign of tympanites. With regard to the cases in that same service under Dr. Lellmann, it was his rule to give every typhoid patient three raw eggs a day, and this was usually carried out from the first day of admission, unless the patient showed some disgust for eggs. He always gave milk, and the whole egg was beaten up in the milk. At that time (1897-98) the mortality was well under two per cent. Dr. Seibert relied entirely on antipyrin to reduce the fever. His form of treatment was to give five grains as soon as the temperature was up to 103° F., and after that kept giving five grains, until the patient's temperature dropped. The speaker never saw any patient suffer bad results from the drug, and they did not follow it up with stimulants until toward the end.

Dr. Bissell said he had heard nothing about the bath treatment. He thought that this was a standby in reducing the temperature of typhoid patients, and either tubbing or sponging was at once resorted to if the temperature rose to a specified point.

Dr. Stowell said these were tenement cases and there were no facilities for bathing, but in the hospital almost every one was bathed more or less.

Dr. Rupp gave his testimony with reference to eggs in typhoid fever. He never saw them do any harm. At present he had a patient, a young man nineteen years of age, who would not eat anything day, and they had no influence on the tympanites. but eggs, ate two or three soft-boiled eggs every The speaker impressed on him that he must chew the egg well and wash it down with water. It had no bad effect on the temperature. As Dr. Carr had said, there was a great deal of latitude in treating typhoid cases and one case could not always be treated like another. Some people would not eat at all. The soup treatment of Seibert, he did not think was anything new. Some Germans ate a great deal of soup. Virchow wrote a popular article some years ago saying that soups were not nutritious, and were not worth swallowing as nutriment.

NEW YORK ACADEMY OF MEDICINE—SECTION ON ORTHOPEDIC SURGERY.

Stated Meeting, Held November 16, 1900.

A. B. Judson, M.D., Chairman.

Fracture of the Femur at Birth.—Dr. T. H. Myers presented a baby, one month old, under treatment for fracture of the femur just below the trochanter minor. The child was the second of twins and presented by the breech. The forceps failing, a hook had been used and caused the fracture with the very unusual displacement of the lower end of the upper fragment backward in spite of the tendency of the psoas and iliacus to pull it forward. The next day the child was in great distress. There was extensive ecchymosis at the seat of the fracture, ⅜ inches shortening, edema of the limb and eversion of the foot, and, on any slight motion, the muscles attached to the anterior superior spine were thrown into a marked spasm which drew the lower fragment forward. A plaster-of-Paris jacket was applied in which was incorporated a steel bar, ¾ x ⅛ inch, extending from the angle of the scapula to the toes, and bent at a right angle at the buttocks and the heel. Traction was made and eversion overcome by adhesive plaster applied to the limb and fastened to the steel footpiece. The plaster of Paris enclosing the pelvis provided secure counter-traction. A light plaster-of-Paris bandage secured the limb to the splint and held back the upper end of the lower fragment. A fenestrum permitted the dressing of the cord. The child fell asleep at once on this application which made after attendance easy and promoted the comfort and general health of the patient. No displacement. Shortening ⅛-inch.

Dr. V. P. Gibney said that fixation had been secured in an admirable manner. He asked why the limb had been flexed.

Dr. Myers replied that he had in that way sought to relax the psoas and iliacus muscles in order to reduce the unusual displacement. He had also seen a directly lateral displacement in a case of fracture of the neck of the femur probably caused by traction with the hook.

Dr. S. A. Twinch related the case of a child whose right femur had been broken at the junction of the middle and upper thirds in a difficult labor. The next day the limb was edematous and almost black. He had put the limb up in a plaster-of-Paris spica with the thigh flexed nearly at a right angle and the leg somewhat flexed. Eighteen days later the dressing was removed and the bone was found united in good position, but with considerable callus. He recalled a recently reported case of the same kind in which a good result followed retention in place for three weeks of a starch spica bandage. The patient had been examined when twenty years old, and it had been impossible to tell which leg had been broken.

Dr. G. R. Elliott said that the mechanical problem was how to secure apposition and fixation, a problem well solved by the use of a steel band and plaster-of-Paris, but capable of solution by easier methods as by the use of adhesive plaster.

Dr. A. B. Judson said that fractures in infancy usually united with great readiness and but little ultimate deformity.

Dr. H. L. Taylor said that when the femur was broken in so young a child deformity was not an

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uncommon result, which he thought could not follow the method exhibited.

Dr. M. G. Campbell, of Atlanta, Georgia, commended the skill and care with which the baby had been treated which were in marked contrast to the too prevalent idea that nothing of importance could be done for one so young. Before pain had been relieved and muscular spasm overcome, rest had been impossible and feeding difficult, two things on which the welfare of a baby absolutely depends.

Dr. Myers said that a common method of placing the child in bed on its back and suspending the legs vertically made nursing difficult and did not control the position and secure immobilization so well as had been done in his patient, who lived at home and was conveniently carried to the hospital for attendance.

Incipient Hip Disease.—Dr. Judson presented a girl, seven years of age, with symptoms of disease of the left hip of twelve weeks' duration. There had been lameness and pain in the knee, the latter so severe that the child had to be lifted very carefully. Rheumatism was excluded. Night cries had followed unusual exercise during the day. Pain and lameness had been inconstant, recurring after intervals in which the child was apparently entirely well. General condition excellent. A diagnosis of hip disease had been made, in consultation with the family physician, on the above history, and the following signs which were observed October 25, 1900: Fulness of the left groin and flattening of left natis, the left gluteal fold more shallow than the right, left thigh and leg ½ inch and ¼ inch less in circumference than the right, and limitation of extreme motion in every direction with reflex muscular action. Limitation of motion was not found at the second examination, but reappeared at a later date. On presentation the child walked when the splint was off with no defect in her gait. When she was examined slight limitation of motion and reflex spasm were found by different observers on attempting extreme flexion, extension, abduction, rotation and abduction with reflex muscular action. Limitation of chiatic crutch had been applied November 15th, to be worn during the day with a high sole on the well foot, directly to relieve the limb from the labor of locomotion and the affected bone from bearing the weight of the body, and ultimately to permit resolution of the inflammation by natural processes. Prognosis: Absorption or incarceration of the focus in the cancellous tissue and recovery, after one year or two years, without deformity or any trace of disability.

Dr. Taylor and Dr. Myers recognized the presence of some of the signs of hip disease and thought that a positive diagnosis required further observation.

Dr. Gibney said that after the reported and present examinations he would give the patient the benefit of the doubt and consider the case as an incipient one, and, if changes occurred requiring more drastic measures, he would seek very seriously to overcome the reflex spasm by immobilizing or putting the parts at rest. If the perineal crutch could be relied on to give the hip rest enough so that resolution would take place, however small the focus or wherever located, the treatment was perfectly justifiable. He appreciated the importance of protection from weight and concussion, but thought that an apparatus which allowed pressure of the toe on the ground did not give enough protection to the joints, so far as reflex muscular spasm was concerned. He questioned whether it did not add to the reflex spasm to have the patient stepping on the toe and ball of the foot.

Dr. Judson said that the ischiatic crutch, as commonly worn, allowed the anterior part of the foot to reach the ground. The toe could be entirely removed from the ground by using a longer crutch and a higher sole, but this would lessen the ability of the patient to walk. He thought there was an important difference between concussion transmitted from the heel through a straight bony column to the affected joint and the same modified in transmission by the interposition and action of the ankle-joint controlled by the muscles of the calf.

Dr. Gibney thought that protection of the joint was not so important as relief obtained by preventing reflex spasm.

Dr. Elliott questioned whether the form of apparatus worn by the patient was sufficient in a patient having a good deal of reflex spasm.

Dr. Taylor questioned whether in a case presenting well-marked symptoms it would not be better to apply a splint with adhesive plaster to be worn day and night than to use an ischiatic crutch to be removed at night.

Dr. Judson said he had lost faith, if he ever had any, in the effect of apparatus designed to elongate contracted muscles or to arrest or prevent reflex action by a direct mechanical pull. Indirectly these important objects were gained by arresting the functions of the diseased joint, thus permitting abatement and resolution of the inflammatory action, which was the incitement of reflex muscular action. The latter ceased as soon as arrest of function brought about resolution. The two chief functions of the hip-joint were motion and weight-bearing, and the latter, carrying with it concussion, was more important as a factor in pathology and treatment than the former. The ischiatic crutch did not so thoroughly remove the weight of the body as putting the patient to bed, but the other advantages were obvious. It practically put the limb to bed and let the patient run about and go to school. In the painful periods of hip-disease the traction splint, combining the protection of the crutch with traction by adhesive plaster, was indispensable for the relief of pain by fixation.

Convalescent White Swelling of the Knee.—Dr. Judson presented a boy seven years of age, slowly convalescing under mechanical treatment for white swelling of the left knee. A year ago the patient's general condition was most unfavorable and locally there were sinuses surrounding the knee, great swelling and the usual evidences of a

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disintegrating joint. His condition and the method of his treatment were (see MEDICAL NEWS, Dec. 30, 1899, LXXV, pp. 855, 856) described when he was presented to the Section on October 20, 1899, and the opinion was expressed that it was a case in which operative surgery should be practised in order to save life. Continued reliance, however, had been placed on the reparative natural processes assisted by mechanical treatment. In spite of the most unfortunate and discouraging environment, improvement had been marked generally and locally. The tumor was very much reduced and firm scars had taken the place of nearly all the sinuses. A year ago the child was emaciated and distressed, but, on examination, he was found to be well-nourished and comfortable. Treatment would be continued by a fixative brace worn day and night and an ischiatic crutch worn only during the day. Prognosis was still in favor of a useful limb, of good length, with no flexion and no deformity except a slight and unimportant degree of subluxation.

Dr. Elliott said that some of the swelling might be gotten rid of by systematic compression and drainage and removal of the tight band above the knee.

Dr. Judson said that the tumor of white swelling of the knee disappeared with the other signs and symptoms which yielded in due time to natural repair and restoration assisted by treatment. What appeared to be a tight band was that part of the fixative apparatus which made pressure from before backward near the joint in opposition to the counter-pressure made by the ends of the brace from behind forward at the extreme upper part of the thigh and lower part of the leg. There was no constriction or interference with circulation or nutrition at any point as no part of the brace was allowed to touch the posterior surface of the limb near the joint. The apparatus was a simple lever and any other arrangement of it would destroy the leverage which was relied on to arrest motion and reduce the flexion.

Dr. Taylor said that this result reminded him, by contrast, of the many patients whom he had seen with limbs disastrously shortened and deformed as the result of excision, an operation which interfered with the growing epiphyses, leading frequently to a shortening of 6 to 8 inches. He recalled an instance of this operation in which the result was complete dislocation of the tibia backward and a flail joint.

Dr. Gibney said that the best surgical practice omitted excision of the knee in children. He saw too many patients coming for the correction of deformity and almost hopeless disability, the result of excision. To save life amputation was required, in certain cases, but never excision in a child. He advocated a country branch to a hospital, open the year around, where children could be on a farm and have simply nurses and a physician or two to look out for them and do very few operations.

Dr. Judson said that the admirable plan thus outlined was too purely expectant. He would add thorough and painstaking mechanical treatment which, no less than good food and wholesome surroundings, reinforced the processes of recovery in growing children.

Dr. Myers said that general surgeons should agree with orthopedic practitioners in interdicting excision of the knee in children. He had kept a boy under strict observation for six years after his knee had recovered to prevent excision for deformity until he attained his growth. He returned from a vacation, however, to find that the patient had been sent to a general hospital where excision had been done at once with recurrence of extreme flexion with lateral deviation and the certainty of more shortening with further growth.

Cases of Funnel Chest.—Dr. Taylor reported the case of a girl, six years of age, seen in September, 1900, with a remarkable congenital depression at the lower end of the sternum, an instance of typical funnel chest of moderate degree. There were no evidences of rickets and the child's health was good. She was the fifth child in a family of seven. Her mother had the same deformity, but knew of no other cases in the family. This condition was usually attended by some displacement of the heart, but without impairment of circulation or respiration. Persons thus deformed had made fair athletes and soldiers.

Fatal Case of Abscess in Cervicodorsal Pott's Disease.—Dr. Gibney exhibited a specimen from a patient affected with Pott's disease with deformity. The girl, five years of age, had been treated as an out-patient by a head support for two and one-half years. The appearance of an abscess over the spinous processes of the last cervical and first and second dorsal vertebræ made it difficult to adjust the support properly and the child became an in-patient. Aspiration gave only partial reduction of the tumor and a sinus was established by an incision after which the child was going about the ward with the head support comfortably readjusted. In the afternoon of November 8, 1900, cyanosis appeared, was relieved when the patient was put in bed, but recurred during the night, when death seemed imminent. On November 9th, a tumor was found in the outer portion of the left cervical triangle with deep fluctuation. Pressure did not increase the flow from the sinus, but added to dyspnea. Traction by the weight and pulley failed to give relief. Attempts at exploration of the pharynx increased cyanosis. Under ether (3 drams) an incision two inches in length along the sternocleidomastoid exposed the carotid and a needle procured cheesy pus. With the finger between the carotid and esophagus a second sac was ruptured with the evacuation of four ounces of pus and some bone detritus. A drainage-tube was inserted. Respiration became easier. Temperature 104.4° F. in the afternoon. November 10th and 11th the patient slept fairly well at night, but with a good deal of coughing and had recurrences of difficult breathing and cyanosis during the day. The temperature fell to 100° F. After sleeping the early part of the night the patient died suddenly on November 12th at 3:30 a. m. Autopsy in the afternoon showed recent pleuritic adhesions with

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normal lungs and abdominal viscera. The two abscesses did not communicate with each other directly. Cavities in the vertebral bodies communicated with the sac of the second abscess which extended along the anterior and lateral aspects of the vertebræ and downward behind the pleura and almost surrounded the esophagus. The pleural cavity was not invaded. There had been no paralysis. The cord was found to be pretty good in consistency all the way up. He had seen no less than six children die unexpectedly in the night with abscesses arising in this location from carious vertebræ. Autopsies had not made clear the cause of death.

Dr. Myers referred to the case (related at the meeting of March 18, 1898), of a boy, seven years of age, affected with vertebral disease in this location, and an abscess discharging in the posterior triangle, whose temperature, on repeated trials, rose when the boy was up and fell when lying down facilitated the drainage of the abscess.

BOOK REVIEWS.

CONSUMPTION: ITS NATURE AND TREATMENT, with a Chapter on Bacteria and Antiseptics. By WILLIAM H. SPENCER, M.A., M.D., Cantab.; M.R.C.P. London. Henry J. Glaisher, London.

THE CARE OF THE CONSUMPTIVE. By CHARLES FOX GARDINER, M.D. G. P. Putnam's Sons, New York and London.

NORDRACH AT HOME, OR HYGIENIC TREATMENT OF CONSUMPTION. Adapted to English Home Life. By JOSEPH J. S. LUCAS, Late Medical Registrar and Pathologist at North London Consumption Hospital. Simpkins, Marshall, Hamilton, Kent & Co., Limited, Iondon.

ÆTIOLOGIE UND PROPHYLAXE DER LUNGENTUBERKULOSE. By DR. J. RUHEMANN, Berlin. Gustav Fischer, Jena.

EACH of these four little books is an index of the present-day views with regard to the treatment of tuberculosis. All of them insist on the necessity for plenty of fresh air, a liberal diet and symptomatic treatment. None of them rates any specific treatment for tuberculosis at any high value.

Dr. Spencer draws the conclusion that "the methods of practical medicine in the treatment of diseases, where bacterial agency has more or less part, are not to be limited to the use of remedies with a view to affect directly the micro-organisms themselves," and that "bacterial life and its consequences may certainly be arrested by changing the character of the bacterial soil and food and by changing conditions needful in order that a right use be made of the food. But this is not to touch bacteria, it is to touch their soil."

Dr. Gardiner discusses the treatment, not of consumption, but of the consumptive patient, an important distinction. His chapter on the pschycology of the sickroom should be read by every physician. It contains much that we all know, but are constantly forgetting. These sentences are pregnant with good suggestions: "It is often very pathetic to see the well-meant, but ignorant and awkward efforts of the family nurse in taking care of a nervous consumptive. A mother in her care of a son, urged on by love and a constantly wearing anxiety for his comfort and recovery, will, in season and out persistently wrap up, admonish, direct and fuss until her very presence becomes little short of torture to a sensitive boy."

Dr. Lucas' little book on Nordrach gives just those details with regard to the home life of a consumptive that it is important for the physician to insist on in his directions to patients—the regulation of windows, for instance, the temperature of living rooms, the clothing to be worn, with a special deprecation of chest protectors and mufflers, the food, its quantity, quality, and variety, with adequate details as to the diet and meal-times. Then, such subjects as the regulation of rest and exercise are treated in a practical straightforward way that cannot fail to be helpfully suggestive.

Dr. Ruhemann's book treats more especially of the important questions of the etiology and prophylaxis of tuberculosis. The influence of a preceding attack of influenza in preparing the soil for the tubercle bacillus is especially insisted on. The favorable influence which subsequent attacks of influenza have on the progress of the tuberculosis is brought out by some very interesting clinical data. Finally, the importance of sunlight as a prophylactic agent against the development of tuberculosis and as a curative agent in hindering the progress of the disease is made very clear.

THE INTERNATIONAL CLINICS. A Quarterly of Clinical Lectures and Especially Prepared Articles by Leading Members of the Medical Profession Throughout the World. Edited by HENRY W. CATTELL, A.M., M.D., Philadelphia. Volume III. Tenth Series. J. B. Lippincott Co., Philadelphia, 1900.

THE first fifty pages of the present volume of the International Clinics consists of a symposium on genito-urinary diseases. The articles on the treatment of soft chancre by Professor Alfred Fournier, of Paris; on extra genital chancres by L. Duncan Bulkley of New York, and on aseptic urethral instrumentation by Ferdinand C. Valentine of New York, are sure to be suggestive and valuable to the non-specialist. In the thirty pages devoted to therapeutics there are three articles of very practical interest—the use of digitalis for children by Charles Ross Jackson of New York; the treatment of typhoid fever in childhood, particularly by cold baths, by Professor Marfan of Paris, and respiratory gymnastics for tuberculous patients by Dr. Ferdinand La Grange of Vichy, France.

The subject of phlebitis always an interesting one to the general practitioner is treated suggestively from two different standpoints, by Professor Pinard of the Bandelocque Clinic, and Merigot de Treigny, both of Paris. The latter discusses the important question, how long must a case of phle-

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bitis be immobilized? The conclusion is that the average period of necessary immobilization can be fixed at six weeks, reckoning from the commencement of the last acute phase.

A valuable contribution from the pen of the late J. M. Da Costa of Philadelphia, includes the discussion of such interesting subjects as diphtheritic paralysis, arthropathy in lead poisoning and syphilitic liver. It carries with it the sad reminder that another of our great American clinicians has departed. Fortunately the record of his clinical work remains as a heritage for the present generation.

Dr. G. L. Walton of Harvard presents a good common sense discussion of the much-abused subject of degeneracy. He points out the anatomical, physiological and mental stigmata of the degenerate and gives a very conservative appreciation of the value of these stigmata as the basis for opinions in neurology. Certain of the articles in this number of "The Clinics" are more conventional than usual. Subjects are touched on too briefly to be enduringly suggestive, and there is a crowding of material not due to advised compression or to appreciative omission that detracts from the value of an otherwise very helpful volume.

SANITY OF MIND. A Study of its Conditions, and of the means to its Development and Preservation. By DAVID F. LINCOLN, M.D. G. P. Putnam's Sons, New York and London.

THIS is an interesting volume of some 176 pages, nicely printed and well bound. It takes up in a semi-popular manner several topics which are always of interest to the follower of medicine and to the student of social science. The nature of mental derangement, degeneracy, education, self-education and social and civic duties are the several chapter headings.

There is nothing profound in the presentation, nor do we find anything that is new; in fact, the observations are thrown together in quite a helter-skelter manner, but withal the book is suggestive.

A MANUAL OF HYGIENE AND SANITATION. By SENECA EGBERT, A.M., M.D., Professor of Hygiene and Dean of the Medico-Chirurgical College of Philadelphia. Lea Brothers & Co., Philadelphia and New York.

THE fact that a second edition of a handbook on hygiene and sanitation should be demanded in less than two years points to an interesting change in medical interest in recent times. This is expressed by the unselfish effort to promote sanitary measures so characteristic of the modern physician. It has given rise to the maxim that the medical profession is doing more than any other to put an end to its own usefulness. The feeling has become universal now that physicians must be able to direct patients how to keep well besides helping to the restoration of health when ill. The physician has a further duty to the community as well as to his own clientele in the cultivation of sanitary conditions. The growth of these feelings has made manuals of hygiene popular. Dr. Egbert's book of 425 pages is a clear, succinct and, as far as its limits will allow, a very complete résumé of modern hygiene. The subjects of ventilation and heating of water and its dangers, of food adulteration, and of school hygiene are especially well treated. Each of the subjects is taken up from a common sense, practical point of view that cannot fail to be of service to the practitioner. It is this that necessitates the second edition within so brief a period after the publication of the first. This will undoubtedly make this new edition sell as rapidly as the first.

MENTAL AFFECTIONS. An Introduction to the Study of Insanity. By Dr. JOHN MACPHERSON. Macmillan & Co., New York.

THIS volume consisting of less than 400 pages made up of the writer's lectures, extended and rearranged, is one of the most important contributions that has been made recently to the etiology of insanity and to the interrelationship of the neuroses, phychoses and diatheses. It is the work of a thoughtful, erudite mind and merits careful, close perusal and study, not alone by the student of psychiatry, but by the general practitioner, psychologist and sociologist. A glance at the table of contents conveys an idea of the scope of the work. Part I. contains chapters on Morbid Heredity, the Evolution of Insanity and the Determining Causes of Insanity. Part II. is taken up with a discussion of the Physiological and Histological Aspects of the Nervous System, Psychological Considerations and Pathological Symptomatology, including hereditary degeneration and cerebral dissociation. Part III. is devoted to Clinical Symptomatology and forms the bulk of the volume. Here the different forms of insanity are considered in detail, yet with notable absence of intricate classification, archaic nomenclature and prolix verbiage which unfortunately characterize many treatises on mental diseases intended for the general practitioner. The chapters on Insanity of the Degenerate is deserving of special commendation. The author is among the first of the British writers to convey the impression of an adequate and comprehensible grasp of the subject of paranoia. He discusses it under the title of Systematized Insanity in the Degenerate (Paranoia Degenerativa). The subject of Insanity with the Neuroses is less satisfactory, not only in manner of handling, but in conception and portrayal. Approached in a critical spirit there is much in the book with which to disagree, mainly questions of fact and belief based upon experience; but despite this the volume is a trustworthy guide for the student, a faithful exposition for the general practitioner and a highly suggestive, comprehensive account of the psychoses for the general medical reader.

BOOKS RECEIVED.

AN AMERICAN TEXT-BOOK OF PHYSIOLOGY. Edited by Dr. W. H. Howell. Second Edition Revised. Vol. II. Muscle and Nerve; Central Nervous System; The Special Senses; Special Muscular Mechanisms; Reproduction. 8vo, 553 pages. Illustrated. W. B. Saunders & Company, Philadelphia and London.

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THE MEDICAL NEWS.

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SPECIAL ARTICLE.

AN HISTORICAL SKETCH OF THE JEFFERSON MEDICAL COLLEGE OF PHILADELPHIA.

THE restless, fervid energy that impels men to teach has done more to supply our country with colleges than the anxiety of the public to learn. At the end of the first quarter of this century there was in Philadelphia a group of young medical men who felt the passion for imparting knowledge with no outlet for its exercise. The Trustees of the Medical School of the University of Pennsylvania, with that complacency which so often characterizes wealthy and successful individuals and institutions, declined to listen to the suggestion that the classes were overcrowded and that new developments were necessary; and there gradually arose two factions in the city, one claiming that a new medical school would draw more students to Philadelphia and increase the city's prosperity, while giving a chance to the talent outside of the University, and others vehemently protesting against the idea.

There was a nucleus of students in the classes which had been established by George McClellan and Eberle which formed the germ of the enterprise, and when the Legislature had repeatedly refused to grant a charter for the new school, McClellan solved the difficulty by proposing to organize a medical school under the authority of some literary college already chartered by the State. As a result of his efforts the Trustees of Jefferson College of Canonsburg, Pa., decided to open a medical department in Philadelphia, and thus was founded in 1824 the Jefferson Medical College which has since taken rank among the first in the country.

Six chairs were established, and a class of one hundred and seven students registered. But there was neither endowment nor building. The small, but ardent faculty, overcame this obstacle by renting a building which had been erected for a factory and altered into a theater, known as the Prune Street, or Tivoli Theater. Directly opposite was the old Walnut Street Prison, and what is now Washington Square was then the Potter's Field, so that the earliest *bon mot* of the new college was made by Dr. Atlee, a student of Jefferson's second class, who suggested that the young physician's struggles were typified by the debtors' prison in front and the paupers' burial ground at the side.

The first course of lectures opened in November, 1825. From the start the surgical clinic was a brilliant affair, and the material, as supplied by McClellan's practice, was a great attraction.

The first Faculty of the Jefferson Medical College consisted of men who, though able and full of ambition, were very young and who still had their reputations to make. Its members were enthusiastic, energetic, brave and honorable, with definite ideas, and not afraid to fight. It took a good deal of courage to cast one's fortune with this new school; the dominant sentiment was strongly against it and it involved a measure of professional ostracism.

The basic principle of the school was that it should be practical, that it should bring the student in contact with disease, and that it should endeavor to make him a practical physician and surgeon.

Dr. George McClellan, the real founder and the dominating influence in the school, was a

Geo McClellan

marked man even from boyhood; he was fierce, energetic, absolutely fearless, quick in conceiving, and rapid in understanding, always sure of his conclusions, very emphatic in his speech, and enthusiastic in anything he undertook. Of marvelous memory, he possessed a piercing eye, and a hand of iron steadiness. Graduating from Yale College in 1815, he studied medicine at the University of Pennsylvania, from which he graduated in 1819. Surgery was the preferred field of his early professional life and in 1823 he removed the entire lower jaw, the operation requiring but four minutes. In the same year he put forth his well-known views as to the arrest of hemorrhage in operations, and from these he never departed. He

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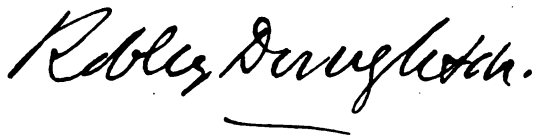
was entirely opposed to the preliminary ligation of blood-vessels, and advocated the forcible tearing out of tumors, in order to lacerate the blood-vessels and thus prevent severe hemorrhage.

McClellan was the soul and spirit of the new enterprise. At the time the first class was ready to graduate, the Legislature had not as yet authorized the new college to issue diplomas, and the right to grant degrees was fought out in the courts of Harrisburg in the spring of 1826. Dr. Washington Atlee has recorded an anecdote of McClellan in this connection.

Dr. Atlee lived at Lancaster. He and several students were sitting in John L. Atlee's office in that town when a knock came at the door and an excited man rushed in. Dr. Atlee introduced him as Dr. McClellan of Philadelphia. Dr. McClellan told them he had driven the sixty miles from Philadelphia since morning, that he was obliged



to be in Harrisburg that night, that his horse was fagged out and could travel no further. Borrowing a fresh animal from Atlee he started at once for Harrisburg, making the entire one hundred and six miles within twenty-four hours. He obtained the charter next morning, arrived in Lancaster the same evening, changed horses again, and started for Philadelphia. When a few miles out from Lancaster the wagon upset. After much shouting, a farmer appeared with a lantern and began to ask how the accident had happened. McClellan shouted furiously, "Come, my friend, this will not do. Let us put our shoulders to the wheel and leave explanations until another time." The wagon was righted, and the next day the charter of Jefferson Medical College was in Philadelphia and the students were able to graduate.

The second commencement of Jefferson was held in 1827 when there were thirty-four graduates; the third was held in 1828, twenty-five men graduating. Among the latter was Samuel David Gross, who was destined to become the greatest surgical authority that this country has produced. After the third class had graduated it was determined that the school must be removed to better quarters. Dr. Ely, a distinguished Presbyterian divine, who was Secretary of the Board of Trustees, offered to fit up a building at his own expense and to rent it to the College for one thousand dollars a year. The offer was accepted, a building was selected on Tenth Street above Walnut, and in the Summer of 1828 the College was removed to its new quarters. In the first class graduated from the new building in 1829 was Washington L. Atlee—the Atlee the world came to know later as the celebrated authority on abdominal surgery, and author of "The Struggles and Trials of Ovariotomy." J. Marion Sims, known to all men as the founder of the science of gynecology, the inventor of the duckbill speculum, and the deviser of the operation for vesicovaginal fistula, graduated in the class of 1835.

The College grew apace. Every man upon the increasing staff was well known as a teacher and writer, the school was obliged to enlarge its quarters and was able, at last, in 1838, to secure an independent charter from the State, by which it became "The Jefferson Medical College of Philadelphia."

This prosperity was not, however, what had been predicted for the College, for the fame that characterized the early professors seemed to be foreign to the development of a brotherly spirit of getting on together. It was doubtless the eager restlessness of a group of energetic men working their way to distinction that caused friction and change. In seventeen years there had been eight different men in the chair of obstetrics, and so many dissensions had arisen and the students had so diminished in numbers that it was predicted that the College could never outlive its difficulties. Finally, in 1841, after a general upheaval that left every chair vacant, the Faculty was reorganized with a set of brilliant men whose relations toward the College did not change for fifteen years. As a result the school prospered to a degree surpassing any other medical college of the time.

In those days, which were such an advance in the medical teaching of the past, a two-year course of lectures, extending through the day and infringing upon the night, constituted the course of medical study. Badly-ventilated rooms, poorly-lighted lecture halls, crowded quarters, and practically no laboratory conveniences were the rule in Jefferson as in all colleges. The famous surgical clinic, which dated back to the days when Dr. McClellan brought his charity patients to the new college, had no adequate accommodations,

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and patients who had undergone serious operations had to be sent to their homes in carriages.

Among the advance steps of improvement that took place before the middle of the century was the establishing of a small clinical hospital with fifteen beds in two rooms near the College. The professor of surgery began in 1835 to teach diseases of the eye in the dispensary, which was probably the first introduction of teaching that

JOHN KEARSLEY MITCHELL.

subject as a specialty in any American college. Oral examinations had been abolished in favor of written ones, to save time and secure the best results from panic-stricken students and to serve as records of the college work; and a spring course had been established to "raise the standard of education."

For a period of fifteen years, dating from 1841, the teachers of Jefferson College formed an harmonious and unbroken Faculty that was regarded as the ablest body of medical instructors in the United States. Every one of its members was a noted teacher and author, and a public-spirited, progressive man.

Among the most celebrated names were those of Dunglison, Mitchell, Meigs, Mütter, Pancoast and Gross; names that no student of the Jefferson can hear spoken without a feeling of reverence.

Robley Dunglison was an Englishman, a practitioner, and the editor of a medical journal in London, before he was elected to the chair of Institutes of Medicine and Medical Jurisprudence at the Jefferson. He was a widely-read and very learned man, and wrote a number of extremely successful books, among which his "Medical Dictionary" and "History of Medicine" are still standard works.

John Kearsley Mitchell, the Professor of Theory and Practice of Medicine, was a successful practitioner, a literary light, a poet, a scientific chemist, an excellent teacher, an impressive orator, a medical philosopher—in short, an extraordinarily-gifted man. He first suggested the nervous origin of rheumatism, indicated the value of rest in spinal troubles, and, in 1849, wrote a famous essay on the "Cryptogamous Origin of Malarious and Epidemic Fevers," in which he clearly anticipated modern science in the view that fungi cause febrile maladies, and there is little doubt that he saw the plasmodium of malaria. His son, Dr. S. Weir Mitchell, the distinguished *literateur*, physician and scientist, graduated from Jefferson in 1850.

Charles D. Meigs, the Professor of Obstetrics, was a famous lecturer, having at his command wit and learning, combined with dramatic power and pathos. He was a man of lovable eccentricity, with a genius for description and anecdote. It was he who gave the name of "milk-men" to those writers who believed that puerperal insanity, abscess in the breast, and other disorders of confinement were due to absorption of the milk.

Mütter received part of his medical education on the Continent, and through him orthopedic surgery and the foreign methods of plastic surgery were introduced into the United States. It was in his clinic in 1846 that ether was used as an anesthetic for the first time in Philadelphia, and

JOSEPH PANCOAST.

it was he who introduced the practice of "quizzing" into the College.

Joseph Pancoast who held the chair of Anatomy and divided the surgical clinics with Mütter, was universally regarded as the greatest operative surgeon in this country. In fact, his reputation was international, as was shown by the fact that the daughter of the Lord Chancellor of England was sent to him to have a difficult operation performed. Pancoast executed the most formidable operations with a dash and speed and certainty simply amazing. He devised numerous operations which still bear his name. He invented the abdominal

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tourniquet, the tongue-and-groove suture, a method for making a new nose, a method for curing exstrophy of the bladder, and a method of removing the nerve trunks from the face for the cure of neuralgia. What we know as the bloodless method of Esmarch, was really devised by Pancoast, and was practised for years in the Jefferson Clinic.

John J. Black, in his reminiscences of forty years ago, describes Pancoast as he appeared to him in his youth. "He was a large thick-set man with a kindly manner. His hand, that organ which did so much for him and for humanity, was large, heavy and thick, with immense, blunt fingers; any other than a hand you would look upon as facile and dextrous almost beyond belief. He could do a major operation, as a hip-joint, and pass with graceful ease to a case of cataract. It was wonderful how he could use those great blunt fingers. They could turn and twist and reach anywhere. His audience was always *en rapport* with the man and his patients looked upon him as next to divine."

The great operations at clinics in these days were those for stone in the bladder, the tying of the larger blood-vessels, amputation at the hip-joint, removal of tumors, etc. One can almost transfer oneself, with the help of Dr. Black's memory, to the amphitheater of the Jefferson Clinic in the early sixties and witness the dramatic effect of an operation by Dr. Pancoast for sarcomatous growth of the thigh.

"There was a large audience present of physicians and students. Dr. Gross assisted at the operation. Both he and Pancoast had something to say. Pancoast's address was quite pathetic; he spoke of the gravity of the operation and its uncertain ending for the patient, said she had seen her clergyman, had had the last rites of her church, and trusted herself to her surgeon and to her God. After the ether had been administered, which was done after the preliminary examination and explanation of the case had been gone through with, the abdominal tourniquet was applied by Pancoast himself. He spoke of its uses, and said, 'Gentlemen, *there will be no hemorrhage.*' He then took his place with nothing but a large scalpel in his hand. Gross stood by him and Maury had charge of the limb. 'Now, gentlemen, are we all ready? Maury, you are a good fellow. I depend on you; when I say lift, you lift; when I say lower, you lower; when I say right, move the limb to the right; and left, move to the left.' He commenced by making first an anterior skin-flap, then a similar posterior one, then a circular incision of the muscles, completing the operation by dislodging the head of the femur, without once stopping or laying down the knife. There was no bleeding, and the securing of the vessels and the dressings completed the brilliant operation. The patient made a good and rapid recovery."

In 1866-67 the clinical opportunities were much enlarged by the establishment of a daily clinic in charge of Dr. J. M. Da Costa, and a "summer course" was started. The crowding of the clinic and the great number of surgical operations performed in cramped quarters, as well as the renewed enthusiasm of the students after the war, led finally with the help of the Alumni to a State appropriation, followed later by a second, together aggregating two hundred thousand dollars for the purpose of enlarging the college and hospital buildings.

The prosperity of the College kept pace with its accommodations. In 1877 the new hospital was finished, with beds for 125 patients and a fine operating amphitheater that would seat more than 700 students. The new laboratory building was the next step, providing room and equipment for the study of practical chemistry, microscopy, physiology, materia medica, and pharmacy.

At that time the statutes of Pennsylvania, like

S. D. Gross.

those of most American Commonwealths, contained stringent laws against the desecration of cemeteries, and it was almost impossible to legally procure material for the proper study of anatomy. The absolute necessity for dissecting was recognized, however, by every educated person. Through the exertions of the then demonstrator of anatomy at the Jefferson Medical College, a perfected bill was finally passed by the Legislature, under which not only were dissections legalized, but provision was made for the distribution of all unclaimed dead bodies to the various medical colleges in the interests of science. This triumph was accomplished at the expense of much sensational scandal and personal persecution, but the persistent efforts indicated above brought

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about the present more enlightened legislation that has broadened all medical study.

In 1885 a maternity department was organized in connection with the hospital. This is complete in every respect and in charge of the Professor of Obstetrics. The advancing standards, a sign of progress in all college life, began in 1882, when the course of two years was successfully increased to three, simultaneously with the organization of a corps of clinical professors to give practical instruction, particularly to the third-year class.

In 1890 the requirements for preliminary examinations were raised, and in 1895 the compulsory four-year course was established, accompanied by many changes in the scheme of study, necessitated by the advance of medical science in its untiring effort to discover all the phenomena of disease by exact laboratory investigations.

About this same time the Trustees determined to change the financial policy of the college by placing the Faculty under salaries, and assuming the entire material administration of the institution. This radical change met with the approval of the Faculty, who submitted to a reduction of their income in order that they might assist the Trustees in their efforts to place this school in the position to which it was entitled. From this action dated the renaissance of Jefferson. Dissensions ceased and the teaching body, unfettered by the responsibilities of non-medical questions, devoted themselves exclusively to their noble avocation.

The Hospital, situated in the heart of Philadelphia, was an outgrowth of the need for clinical facilities, and has been one of the causes of the great success of Jefferson Medical College. It has at its command the services of a small army of leading practitioners of medicine, surgery, and the specialties, and the wealth of clinical material is so great that in its last report over 99,000 annual treatments are recorded. It constantly draws difficult cases from the city and surrounding country and the most distinguished operators from home and abroad take part in its clinics.

The College which in 1826 had but six, now has twenty chairs, and a total teaching staff of 137 members, comprising professors, assistants, demonstrators and instructors. It also possesses ten large laboratories and seventeen smaller rooms for individual research to properly prepare its more than 750 students to fight disease and death. With its splendid teaching staff, its superb facilities, the liberal policy of its administration and the enthusiasm of its followers, Jefferson Medical College is accomplishing the most difficult task of excelling the great achievements of its past, thus insuring for itself a still more glorious future.

Another Antityphoid Serum.—According to *Wiener Klinische Wochenschrift*, Dr. Jaz of that city has obtained some excellent results from a new antityphoid serum. It is reported that in the wards of the general hospital it has been used on fifty cases with excellent results. Treatment is by the mouth.

ORIGINAL ARTICLES.

FATTY DEGENERATION OF THE HEART.*

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FATTY degeneration of the heart was first correctly differentiated from the fat heart of obesity by Laennec[1] and a little later by Andral[2] who called it *ramollissement du coeur*. Laennec in calling attention to the yellow or "dead leaf" color of fatty degeneration referred to the advanced stages of fatty degeneration.

The source of this degeneration appears to have been discovered by Hayem[3] at least so far as typhoid fever is concerned. In 1883 Germain Sée[4] confirmed this view, while in 1891 E. Romberg[5], after an elaborate study of the heart substance in typhoid, scarlatina, and diphtheria, discovered in all of them a granular and fatty degeneration of the heart-muscle, together with a small-celled infiltration of the adjacent connective tissue. In 1898 Bollinger[6] adopted this view and described three degrees of fatty degeneration, though he did not intimate that they might be three stages in the one process. In the same year Dehio[7] confirmed Hayem's views, so that we may now regard the matter of fatty degeneration of the heart as fairly outlined pathologically. It remains for us to attach, if possible, clinical phenomena to the successive stages of its development. Fortunately we appear to have the data at hand for this purpose.

It is very important to put this matter on a sound clinical basis, for how often does sudden death by heart-failure strike down a person who, up to the time of the attack, appeared to have excellent health. In fact, his physician may have examined his heart and, finding no signs of valvular disease, have been content with the diagnosis of a "weak heart," and yet the heart- substance may have been so profoundly diseased that it only needed a sudden, violent, or even prolonged "strain," to cause hyperdilation and cardiac paralysis.

I described such an instance at a meeting of the New York Pathological Society some years ago. A gentleman, seventy-one years of age, after leading an active life up to a year before his death, was suddenly taken with dyspnea after some hill-climbing in California. Up to this time he had never had heart-symptoms. He recovered promptly, however, from this attack. Later he took a 25-mile sleigh-ride and had another attack, but was restored by stimulants. Five weeks before his death he lost consciousness in a street-car, and was taken home with some difficulty. However, stimulants again revived him. An examination by the family physician showed that he was anemic and weak. The pulse could not be felt, and the apex beat was barely appreciable. He did not rally. At the postmortem examination which I made there was a marked blanching of the surface

*Read before the Medical Society of the State of New York, January 29, 1901.

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of the body. The lungs were edematous and the kidneys pale and fatty. The heart was not especially enlarged, but it was pale and flabby.

Microscopic examination of the cardiac muscular tissue showed that along the inner wall of the left ventricle the striations were quite gone, though they were fairly well marked at the periphery of the ventricle. There was no valvular disease. In this patient the initial "strain" to the degenerate heart-muscle seemed to be traceable directly to the hill-climbing in California. There were apparently no other lesions to cause death.

The weak heart of fatty degeneration is common enough at all periods of life. In infants and children it occurs during and after the eruptive fevers, diphtheria, acute rheumatism, pneumonia, influenza, or, in fact, any acute attack of fever or toxemia. In senility, at whatever age it may happen, whether early or late in life, it is a phenomenon to be expected. In fact, whenever there is a prolonged fever, toxemia, dyscrasia or mechanical injury, fatty degeneration of the heart may occur. With few exceptions, the so-called "weak heart" is in reality the heart of fatty degeneration, and whenever death is traceable directly to heart-disease the actual cause of death is most often associated with the yielding of the cardiac walls.

And yet, to judge from individual experience as derived from intercourse with physicians and from current literature, the matter is not so understood by the profession at large. In consequence the degeneration is apt to be recognized too late for treatment, as in the case just cited.

It will be the province of this paper to discuss the etiology of fatty degeneration and to point out that it may be separated for practical purposes into three stages, each characterized by definite clinical signs; and to indicate the line of treatment appropriate for each stage.

The early or preliminary stage is the one in which the prognosis is the most favorable for complete recovery; in the second or intermediate stage we should be able to hold the disease in check; in the third or final stage palliative treatment alone is possible.

If, however, we are to grasp the matter intelligently, we must first of all look to the minute structure of heart-muscle. Though involuntary, it is made up, as we all know, of muscle-cells marked by longitudinal and cross striations. The body of each cell is cylindrical and contains one or two nuclei. The nucleus is vesicular and oval and is placed near the center of the cell-body. The cells are not only joined at their ends with contiguous cells, but, through branches with other cells, making in this way a reticular network. The apposition of these cells is effected by a cement substance that is not seen under ordinary conditions, and the network holds in its meshes vessels, nerves and fat.

In inflammation of this muscle the cells become opaque, owing to their infiltration with granular matter, or at least with something presenting that appearance (cloudy swelling), and the particles have been thought to be *albuminoid*, because they disappear to some extent with weak acids or alkalies. A theory has been proposed that this *albuminoid* material may be formed from the cytoplasm of the cells.

Another theory supposes that the granules represent the toxic elements of disease; another that they are effete matters being eliminated; another that they are micro-organisms; another that they are fatty particles in a stage of minute deposition. It is certain that some of them are pigmentary, from which it follows that all of them are not of the same character. It is also certain that in many instances, such as acute phosphorus-poisoning, arsenic poisoning, and typhoid, many of the particles in the first stage are either mainly fatty or of some substance closely allied to it.

In the second or intermediate stage, the muscle-cells are dotted with larger globules of oil and appear to occupy the same position as the "albuminoid" and fatty particles of the first stage.

In the final or third stage, the fatty globules reach a higher degree of development, while occasionally the muscle-cells are pulled apart (segmentation), or broken into fragments (fragmentation), as the result of hyperdilation. In this stage there is an engorgement of the blood-vessels of the internal viscera, limiting their functional activity and causing hyperemia, edema, thrombosis or embolism. Renaut[8] has gone so far as to classify segmentation as a variety of chronic myocarditis, which he has called *myocardite segmentaire chronique*. This view met at first with opposition from Ziegler and Recklinghausen, who regarded segmentation as an agonal manifestation. Hektoen[9] of Chicago, however, has examined eighty hearts to test the matter, and has come to the following conclusions: Segmentation and fragmentation do occur in heart-muscle during life in consequence of irregular contractions or injuries, usually associated with disease of heart-walls. If the segmentation or fragmentation is limited in area it is not immediately fatal. Consequently we are forced to believe that both segmentation and fragmentation are real events in heart-strain, contributing of course to the fatal issue.

Reverting for a moment to the subject of the so-called albuminoid change, a theory has been advanced that in exhausting diseases associated with prolonged fever in which the cardiac muscle is actually starving from lack of nourishment, in its hunger it makes a demand on the store it has already accumulated, *viz.*, the metaplasm of the muscle-cell; but if this is exhausted and more is needed, it is compelled to consume its own substance. Now, the reserve stock in the meshes of the muscle-cells is made up of carbohydrates, and there is no harm done to the cell by this consumption. When, however, the living tissue of the cell has to be sacrificed there is a loss of the proteids or albuminoid substances of the cell and the damage done is directly proportionate to the amount consumed, and yet the combustion is incomplete, a granular *débris* being left behind in the cells. But consumption may proceed a step

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further, so that the fatty matters and fluids of the protoplasm are burned, though the combustion is still incomplete, and a further residue of oil is left behind in the cells. And yet even now a restoration of the cells is possible, provided only the nucleus has been left unimpaired. Death of the nucleus, however, means death of the cell.

Quite a different view has been presented by Huchard[10]. It is that the first stage of fatty degeneration is due to the irritation of a micro-organism or toxin, which, if sufficiently virulent, causes inflammation and possibly necrobiosis of the cell ultimately. This last theory is plausible, but it does not apply to the fatty degeneration seen in retrograde changes, such as occur to the parturient heart, the athletic heart and the heart of adherent pericardium, in which the fatty degeneration of certain portions of the cardiac walls appears to be due directly to lack of use, for when certain fibers are no longer needed, they are pretty sure to degenerate and eventually disappear. So much for the theories of the production of fatty degeneration. Accepting the dicta of Hayem, Romberg, Huchard, the acute stage is essentially a fatty one, that is, the acute softening in typhoid, scarlatina and diphtheria.

Fatty deposition or accumulation in the heart, the fat heart of obesity, is quite another condition etiologically and pathologically. Fat accumulates in the connective or interstitial tissue lying between the muscle-bundles. It is the result of overfeeding either with fatty food, or any food material that is in excess of bodily requirements, but the two processes are to some extent allied clinically for the muscle-tissue may suffer atrophy in the fat heart from pressure of the fat tissue, or the fibers may be so separated or overstretched that their integrity is impaired and they will degenerate in consequence. Fatty deposition and fatty degeneration may, therefore, coexist in the same heart, and yet while fatty deposition is apt to cause fatty degeneration, fatty degeneration never causes fatty deposition.

To the naked eye there is little difficulty in recognizing fatty degeneration by its pale yellow color, well shown beneath the lining membrane of the left ventricle or papillary muscles in nearly every heart in which there is chronic valvular disease, but the eye will often fail to recognize it in the softened heart of typhoid fever or diphtheria, for the tissue will not be yellow, but of a muddy, brown color, or, if there is a fibroid element, the color may be violet-brown or violet. It occurs in localized areas presenting a mottled appearance, or is diffuse and the special area of softening is "mushy," so that in handling the heart the fingers sink into it. The left ventricle is chiefly affected at first.

Fatty degeneration taken in the broad sense that I have indicated must be quite frequent. Roemer of Tübingen, between 1870 and 1890, had at his clinic 291 cases of valve lesion, in which 230 showed symptoms of disturbed compensation, while at the same time there were 234 cases that he called myopathic heart-failure, without any lesions of the valves. Now, as most of these 234 cases were really fatty degenerations, heart-failure without valve lesions was about as common as heart-failure with valve lesions.[11] Chronic fatty degeneration of the heart is usually associated with cardiac hypertrophy, atrophy, fibroid disease, fatty deposition, chronic endo- and pericarditis, and some other cardiac diseases. For example, Quain found hardening or calcification of the coronary arteries in 13 out of 33 cases of fatty degeneration; Markham in one out of 12 (Whittaker), so that arteriosclerosis may also be regarded as one of the causes of fatty degeneration. It is an unfortunate idea prevailing in some quarters that coronary disease has a preponderating etiological connection with fatty degeneration, but such is not true, and it is not at all uncommon for me to have a case of fatty degeneration turned over to me with the label "coronary disease." With other physicians I might add the term "myocarditis" means fatty degeneration. Sobernheim, who introduced the word myocarditis in 1837, deserves no credit for so doing, for it supplanted the word "carditis" introduced by Corvisart, and a much more appropriate term.

We usually meet with the chronic variety of fatty degeneration in middle life, and this has been my experience, though it may occur at earlier periods of course. In 88 cases published by Hayden[12] fatty degeneration was found most commonly between sixty and seventy, less often between forty and fifty years of age.

It is extremely important that we recognize the early or premonitory stage, as bearing both on prophylaxis and treatment. Unfortunately this is not always possible. In mild cases the physical signs may be absent, for there may not be any dilatation, and the physical signs depend on this circumstance. Hence the importance of outlining the heart by percussion, variations in outline from the standard will indicate whether the right or left ventricle is dilated, and the position of the apex will aid greatly in determining whether the heart is enlarged. Then the impulse at the apex will be more or less feeble, and the pulse will be intermittent and rapid. The sound of the heart will also be weak. There may not be any murmurs, or, in the absence of valvular disease, there may be systolic murmurs due to muscular insufficiency. If there is hypertrophy of the right ventricle following dilatation of the left ventricle, there will be an accentuation of the second pulmonary sound.

There may also be precordial pain or distress and spells of dizziness or fainting. This stage may last a few days, weeks, or months; or longer after diphtheria and influenza. A few cases taken from my pathological records while pathologist to the St. Luke's and Presbyterian Hospitals, illustrate the subject of fatty degeneration.

Case I.—A drinking man, thirty-eight years of age, entered the hospital with an empyema, the abscess discharging in the mammary region. Pulse 100; respiration 31 to 36; temperature 102° F.; dyspnea, precordial pain, cough, mucous expectoration and night-sweats. After battling with

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the attack for three months he died of cardiac paralysis. At the postmortem examination the opposing surfaces of the pericardium were found to be acutely inflamed and were "hairy." The pericardial sac contained three ounces of clear serum. The heart was dilated and in a condition of acute softening. Fifteen ounces of purulent fluid were taken from the pleural cavities. This was an example of fatty degeneration of the heart in the first stage due to a combination of two causes, acute pericarditis and empyema. The cardiac symptoms were not clear, being obscured by those of the empyema.

Case II.—This also illustrates fatty degeneration of the first stage in a marked manner. M. C., thirty-two years of age, widow, stewardess, was admitted to the hospital July 25, 1879, with yellow fever. Her illness dated back only five days, when she was taken with frontal headache and general "soreness" of back and legs. The initial chill was followed by nausea, diarrhea and fever. Pulse 108 and weak; temperature 105° F. On the ninth day she vomited dark matter, became delirious, had albumin, 50 per cent. by volume, with scanty water. At the postmortem examination the heart was found to weigh ten ounces and was soft, flabby and fatty. The valves, however, were free and normal. This fatty condition of the heart had previously been noted by Dr. H. D. Schmidt of New Orleans, as a characteristic of yellow fever, with at the same time fatty degeneration of other internal organs including the brain. This case I regard as another instance of fatty degeneration in the first stage. I made the microscopic examination of the heart.

In the second stage the signs of a dilated heart are more pronounced. The left ventricle may reach to the left nipple or beyond it, while the right ventricle may extend an inch or more beyond the right border of the sternum. The apex may be in the fifth, sixth or seventh space. The pulse will usually be soft, intermittent and slow. There may be and often is a lack of balance between the heart and pulse-beats. There may be a reduplication of the heart-beats. There is one class of patients not infrequently seen in this intermediate stage. They are persons for the most part who have passed middle life, are inclined to be stout, though not always so, but are anemic in appearance. The pulse will be slow, intermittent and feeble, the apex beat hard or impossible to locate by palpation. They will have dyspnea, some precardial oppression, with occasional attacks of dizziness. Gastric symptoms are always in evidence, and occasionally there will be gastric crises alternating with anginoid attacks. Cyanosis will occur a times. Such patients will usually be irritable or whimsical or nervous about trifles, but always concerned about their health. There will be a disinclination to undertake anything new, even to walk, and the gait will be uncertain. Occasionally there will be hemorrhages, usually in the form of epistaxis. Local edema of face, hands and feet will occur at times. The urine will contain a little albumin, and often a little sugar. This stage may last from two to three to ten or fifteen or twenty years, depending largely on the degree of the degeneration and the care the patient takes of himself. I have under my care at the present time several cases in this stage.

The third stage is ushered in by symptoms that indicate secondary implication of other organs. There may now be pseudo-apoplectic attacks, due to cerebral embolism or thrombosis referable to imperfect heart-action. Attacks of heart-failure are more frequent and more alarming. Albuminuria is more pronounced and less amenable to treatment. In fact, symptoms referable to chronic nephritis are the rule. Gastric disturbances become so pronounced that the patient is afraid to eat for fear of the distress it occasions. Local edema passes over into general. Thrombosis of veins may be a pronounced feature. In one of my cases thrombi distending the right external jugular were distinctly felt. A low form of meningitis from effusion at the base may be one of the final events. The mind will be disturbed and there may be Cheyne-Stokes breathing at times, though this is not necessarily a sign of immediate dissolution. But until stasis occurs in internal organs, we should not despair. When, however, it occurs, and this condition characterizes the third or final stage, the end cannot be far off. With great care life may be prolonged a few months. Death may occur, however, not from any of the above causes, but from rupture of the heart. Quain has seen it in 28 out of 83 cases.

This stage is illustrated by the following three cases:

Case III.—A man, forty-six years of age, entered the hospital with signs of general syphilis. He had cough, jaundice, dyspnea and swollen feet. A soft systolic murmur was heard at the apex. The patient died fifteen days after admission of chronic nephritis. At the postmortem examination, the pericardial sac was found to contain ten ounces of clear serum, and there were several milk patches on the heart. It weighed eighteen ounces. There were no valve lesions. The liver was large and fatty. The kidneys were the seats of chronic nephritis. At the autopsy the murmur was held to be muscular and due to fatty degeneration of the heart. Syphilis was pretty certainly the remote cause of the fatty degeneration.

Case IV.—The following is another of my cases: A woman, thirty-eight years of age, who said she had suffered from "malaria," was admitted to the hospital with edema of the lower extremeties. She complained of attacks of palpitation, with precordial pain, tonic spasms, and dyspnea. The pulse was intermittent and the aortic second sound accentuated. The patient died of cerebral hemorrhage. The autopsy disclosed general arteriosclerosis with chronic diffuse nephritis. The heart was dilated and soft, but the valves were free and sufficient. The cause of the fatty degeneration in this case was arteriosclerosis, and the death by cerebral hemorrhage illustrates one of the several ways in which the end comes at last.

Case V.—A woman, sixty-three years of age, with a history of articular rheumatism, was ad-

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mitted to the hospital with cough, hemoptysis, dyspnea and chronic nephritis. She had a systolic murmur over the apex, and also over the aortic and pulmonary areas, with accentuation of the second pulmonary sound. She died of cardiac paralysis and chronic nephritis. At the autopsy the heart was found to weigh twelve ounces. The valves were free and sufficient, but the cardiac walls were soft and flabby, and the cavities of the heart were dilated. The heart and pericardium were united by an old adhesive pericarditis. The liver was large and fatty. In this instance we have the fatty degeneration of the heart always found in adherent pericardium, though the toxins of rheumatism may be assumed to have been early factors in causing degeneration independent of the pericarditis, which operated in a purely mechanical manner to produce the fatty change. This case is another instance of fatty degeneration in the third stage.

If, then, we realize that this affection of the cardiac wall is incidental to the infective diseases, continued fevers, septic or suppurative processes, toxemias, dyscrasias, hypertrophies and atrophies, we should be on our guard to protect the patient against the inherent damage to the heart resulting from these several conditions. So we should hope either to prevent a break down of the cardiac walls, or certainly to postpone it. In infants or young children convalescing from eruptive or continued fevers, we should watch carefully their "weak hearts," and with them rest in bed and minute doses of iron and strychnine, perhaps in conjunction with some malt preparation and cod-liver oil or quinine, will usually be sufficient in uncomplicated cases, provided the diet is carefully regulated, and hurried movements, straining of muscles and nervous excitements are avoided.

In young people, such, for example, as are anemic or tuberculous, gymnastic exercises are appropriate for the intermediate stage, provided they are given under suitable medical direction and are not carried to the extreme that is customary at the present day in gymnasiums and outdoor sports. There are plenty of schools for physical instruction under medical supervision, where those convalescing from illness with weak heart-action can be greatly improved. On the other hand, we cannot too strongly condemn the class exercises of the day, if the patient has heart-weakness or in fact any form of heart-disease. Class work calls for uniform movements, usually rapid, giving few intermissions for breathing, so that it is suited only for those whose hearts are sound.

In fact, every case of weak heart should be treated by itself, whether in the young or old, and the exercises should never be carried to the point of increasing the rapidity of the heart's action beyond its normal range, which of course differs with each individual, for although we have adopted an artificial standard for the rapidity of the pulse, one man's normal pulse may be 60 or perhaps less and another's 100 or more, in some instances. Systematic exercise of a specially-prescribed variety should be insisted on, because habits of indolence tend to a fat heart, and will increase the difficulty. In fact, oily matter of any kind should be consumed by muscle work. At the same time, patients should be put on a specially-restricted diet. It prevents gaseous distention of the stomach and intestines, which provoke cardiac disturbance.

When young or old people have not the strength for voluntary gymnastic exercises, they should have resistant exercises with or without massage. These exercises are more thorough than massage, and tend to rid the muscle-cells of their granular contents, be they toxic or otherwise. But with delicate patients massage and exercises may be too severe a tax on the strength, producing too profound a reaction. The treatment should always have the effect of toning up rather than relaxing the individual. Carbonated baths, of course, are to be used in conjunction with resistant exercises in the intermediate stage of the disease; but baths and exercises are of little or any use in the third stage. And yet while they may not do any good, they may not do any harm. Massage may, however, be very grateful.

Roemer, quoted by Whittaker,[14] reports that in 234 cases of heart-weakness without valve lesions, where 81 of them were treated by the mechanico-dietetic, improved Nauheim plan, 46 recovered and 17 were improved. But neither exercises nor baths should be instituted until a careful physical examination of the patient has been made. If, for example, he is suffering from a violent attack of palpitation, rest in bed in a quiet room and a restricted diet should be ordered. Milk is excellent if it agrees with the patient. Some simple sedative like the bromide of camphor may be given, though I have often seen such patients recover from even severe attacks without any medication addressed to the heart. However, aconite in one-minim doses is sometimes useful, or a belladonna plaster may be applied beneath the breast. But if the palpitation is neurotic, such heart tonics as spartein sulphate, strophanthus, convallaria and digitalis should *not* be given. Valerian is better, and minute doses of calomel, with or without an enema, are usually soothing. In ordinary cases of fatty degenration, the patient, if he is anemic, should be put on iron; if tuberculous, on malt preparations and creosote or cod-liver oil; if atheromatous, on the iodides; if rheumatic, on antilithemic diet and remedies in conjunction with the hot-air treatment.

In the third stage, when all hope of cure by any of the above measures is at an end, and it is merely a question of prolonging life and alleviating suffering, digitalis is appropriate if there is an effusion referable to the failing action of the heart through inaction of the kidneys. In Merck's digitalis in 1/100-grain doses every few hours I have found the most satisfactory method of giving this drug. But it should not be continued more than a week or so at a time, and strychnine should follow it to maintain its effects. Other remedies that are useful in this stage are nitroglycerin, caffeine, strophanthus and spartein. Attacks of difficult breathing, if not severe, are relieved by oxygen gas, while

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sudden attacks of true or false angina are best treated by the nitrites. I am apt to use a solution in these cases containing nitroglycerin, 1/100 grain; amyl nitrate, ¼ grain, menthol, 1/50 grain, and oleoresin of capsicum, 1/100 grain, all suspended in 10 minims of castor oil. A single capsule containing these ingredients I have on hand when these attacks are expected, and a single dose usually suffices. But even in the third stage it must be remembered that the degenerate heart has a most remarkable capacity for recovery, even without the so-called heart stimulants. If given their action should be constantly watched and in any case they should be used for only the briefest possible period. These remarks are especially true of digitalis, strophanthus, spartein and strychnine.

The prognosis of fatty degeneration varies with the stage, the individual and his environment, and the influence of the disease that has produced it, for fatty degeneration is not strictly a disease *sui generis,* but rather a degenerative process superinduced by a number of diseases. For example, the fatty change attendant on infective diseases or toxemias should disappear entirely, provided the heart has had rest during the stage of convalescence. On the other hand, if during convalescence the patient has been called upon to do an improper amount of physical work, dilatation may ensue and fatty degeneration in the second stage may be initiated. It is now believed by competent authorities that in infants and young children fatty change in the heart as an incident of infective diseases, or as a sequel to them, is quite common. On the other hand, a moderate amount of fatty degeneration is not inconsistent with an average life; in fact, there is a certain amount of fatty degeneration in most adult hearts otherwise sound, reflecting probably the methods of life in what we call civilized communities, where our intellectual rather than the physical parts of our system are most in use. This is well shown in the hearts of athletes. For when hypertrophy has been caused by severe training, there seems to be always a certain amount of fatty degeneration coincident with the gradual return of the heart towards its normal size, which retrograde process takes place when athletics are given up for the ordinary routine of a business or professional life. In such cases, however, when the enlarged heart fails to contract to the normal size, we may infer that the delay is owing to some other organic heart-affection, such as valvular disease or mechanical injury, as from an old strain.

In the middle point of life, when degenerative changes are the rule, a weak heart may be toned up and restored to a fair degree of soundness by appropriate treatment, though I can hardly believe a permanent cure is effected pathologically. It is one thing to restore an organ so far that it is sound physiologically, quite another to have it sound pathologically. But it is a triumph in medical art to restore the functions of the heart.

In the final stage when anasarca supervenes and the kidneys, from hyperemia or structural changes, secrete a lessened amount of urine, containing albumin and granular cells, and there is transudation of fluids into the bronchi or lungs or chlylopoetic tract, interfering with the functions of these organs, the prognosis cannot be favorable. The fatal issue is certainly near at hand, and, though the heart may be sustained and the kidneys forced to do better work, it is a struggle in which Nature will eventually triumph, most likely by thrombosis, embolism, perhaps apoplexy, meningitis, or uremia.

In conclusion: Fatty degeneration of the heart is a common affection, though it is not to be classed as a disease *sui generis*, but rather as a metamorphosis or process attending on loss of compensation in valvular diseases, but also nearly as often on non-valvular diseases.

It is caused by fevers, toxemia, dyscrasias, disorders of nutrition, and mechanical injuries, but it may also be a physiological process as, for example, in senility or after parturition.

For practical purposes, it may be divided into three stages, the first or early; the second or intermediate, and the third or final, and each stage is capable of being distinguished by certain clinical signs.

In the early stage the prognosis is best for complete recovery, that is, if the patient does not yield to the primary disease, for in that case he will probably recover with a sound heart, provided of cause the heart complication is properly treated.

In the intermediate stage the prognosis is not good for the arrest of the fatty process *in toto,* but the functions of the heart may be so improved that the patient should be able to resume his former work and enjoy a fair degree of health for an indefinite period. In fact, we may expect a physiological if not a pathological cure.

In the third or final stage, which is marked by such profound implication of the internal viscera that their functions are in abeyance, the prognosis is always unfavorable. The end will rarely be delayed beyond a few months.

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Horseflesh as Food.—Health board inspectors have recently found that there is quite a demand for horseflesh among the poorer classes of the East Side. A butcher of Carmine street was found to have 600 pounds of it in his store. He says that for more than six weeks he has been selling horsemeat steaks and that his customers have made no complaints but on the contrary are pleased to get meat at the low price at which horsemeat is sold.

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A CASE OF PUERPERAL SEPSIS FROM RETAINED LOCHIA (LOCHIOMETRA) WITH REMARKS.

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ON July 24, 1900, Mrs. A. B., primipara, outpatient of the Mothers' and Babies' Hospital, was delivered of a male child after a labor presenting no unusual features. Except for a marked scantiness of the lochial discharge, the puerperium was uneventful until the sixth day when the patient suddenly developed a temperature of 103° F. and a pulse of 120. On the morning of the seventh day she was seen by a member of the house-staff and received an intra-uterine douche. At about 8 p. m. of the same day when first seen by the writer her temperature was 102.6° F. and her pulse 120. On vaginal examination it was found difficult to explore the intra-uterine interior, owing to the exaggerated anteflexion of the uterus, but traction upon the anterior cervical lip combined with suprapubic pressure sufficed to restore the uterus to its normal position and digital examination showed no remains of placenta or membrane. The uterine cavity was again irrigated. On the following day the patient's temperature was 98.6° F. and her pulse 104; on the next day the temperature was 99° F. and the pulse 78. There was no further intra-uterine treatment and her subsequent convalescence was uninterrupted.

This case is not reported because of its rarity, for such cases are by no means uncommon, but the fact that English and American text-books ignore the subject altogether seems a sufficient warrant for reporting it and for drawing certain general conclusions with reference to the etiology, diagnosis and treatment of puerperal infection. The prevention of infection is the supreme duty of the accoucheur the most important part of the management of normal labor. This is now generally recognized, though the means employed for the attainment of this end are often faulty. But the obvious corollary that, since puerperal infection is ordinary wound infection, the different kinds of infection should be carefully classified for purposes of intelligent diagnosis and treatment is very commonly overlooked.

In the eyes of those who still treat puerperal infection from the standpoint of the last decade, the problem is a simple one and its solution equally simple. The uterus is scraped with the curette. The results are justified by the following statistical fallacy. Many cases, of course, recover and would recover under any treatment. These are set down as successes. Some cases do not recover or are made worse, and here the infection was too virulent or the curette was not used early enough. By this kind of reasoning in a circle, the utter neglect of scientific study of puerperal infection is made convenient and easy. Time and space forbid a general discussion of the subject of curettage in puerperal sepsis. The modern standpoint has been sufficiently presented by Ohlshausen and Veit, Ahlfeld, Bumm, Whitridge Williams, and many others who have amply demonstrated its uselessness in many cases, and its danger in others, but as is usually the case with methods of treatment which have become popular, its practice will long outlast the demonstration of the fallacy involved.

It is such an easy solution of the question Puerperal infection is regarded as a kind of morbid entity localized within the uterine cavity and removable by mechanical means, and so sepsis localized in vagina or cervix, sapremia from retained lochia, streptococcus infiltration of the uterine wall, fever due to infected thrombi in distant regions, and general lymphatic septicemia, are all treated in the same way.

The prompt success of proper treatment in the condition under consideration adds another restriction to the routine use of the curette. Although intra-uterine irrigation was used as an additional precaution it is quite probable that reposition of the uterus with an ice-bag over the fundus would have been sufficient. Several recent text-books state that every case of puerperal infection should be treated by early curettage, and in at least one well-known maternity hospital, not long ago, every febrile case was curetted as the first measure of treatment. Curettage for the removal of retained lochia would be ludicrous if it were not dangerous, but that it has many times been practised cannot be doubted in view of the above advice and practice. So much for the bearing of this case upon the general subject of the treatment of puerperal infection.

A word with reference to diagnosis. The sensation communicated to the palpating finger in these cases is a peculiar one. The uterus has a boggy semi-elastic feel, which has been compared to that of the pregnant uterus. This was especially noticeable in the case referred to, and is, as the writer believes, characteristic of this variety of infection.

In this connection it is well to note that the description commonly given of the physical signs of puerperal septic endometritis often serves to lead the student astray. What are the physical signs of an endometritis due to a sapremic or streptococcic infection, a putrid or septic puerperal endometritis? In the text-books this question is answered as follows: "The uterus is enlarged, sensitive to pressure, has a boggy feel, etc." One cannot resist the conclusion that some writers have written from an academic rather than a practical standpoint, that they have pictured septic endometritis, not as by careful examination they have found it to be, but as reasoning from analogy they have thought it ought to be. In a careful and painstaking examination of a considerable number of cases of fever after delivery, the writer failed as a rule to find the above signs, and further observation has furnished him with ample confirmation of the statement of Ohlshausen and Veit that without bacteriological examination there is no positive diagnostic sign, except in those cases in which

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a history of retained placenta establishes the diagnosis of putrid (sapremic) endometritis.

It is probable that in most cases, if one is familiar with the various types of infection, the diagnosis can be made with a reasonable degree of safety by a process of exclusion. But the physical signs mentioned in the text-books are in the majority of cases absent or ill-defined. They are the symptoms of diffuse metritis not of endometritis. The general recognition of this fact by the text-books would do a vast deal of good. It is the failure to find these signs which leads to the non-recognition of sepsis, which furnishes excuse for carelessness in the management of labor and in operative technic, and gives plausible ground for the diagnosis of influenza, malaria, etc., so often gravely made by men who ought to know better.

In sepsis from retained lochia, however, we do find an enlarged uterus, the enlargement disappearing with the cause. The possible, though rare, occurrence of this form of sepsis from retroflexion of the puerperal uterus should not be forgotten.

The patient's temperature, as already stated, was 103° F. In discussing the differential diagnosis between sapremic and true septic infection, most text-books lay stress upon the higher temperature-range of the latter. That this test is not always to be relied upon must have been forced upon the observation of every careful observer. That lochiometra may be, and frequently is, accompanied by a temperature of 103° F. or more, cannot be doubted. The pulse is a better criterion. A continuously rapid pulse is indicative of true septic infection. But even this sign may fail for the first day or two, the slow pulse of the puerperium persisting, and the pulse may be temporarily rapid from fright and nervousness on the part of the patient. That high temperature and pulse-rate are temporarily much exaggerated by the reflex influence of sudden uterine distention is well known.

Bacteriological examination is the final test, but is, of course, unreliable unless made by an expert and with every care to avoid contamination of the specimen by vaginal or cervical secretions. Moreover, bacteriological examination, while highly desirable from a scientific standpoint, does not always subserve the interests of the patient. All careful observers have noticed the occurrence of extension of infection as the result of curettage, and even of the intra-uterine douche. This extension is the result either of the production of abrasions which constitute new avenues of infection, or of the breaking-down of Nature's leucocytic barrier by which, ordinarily, the progress of infection is prevented. Now, common sense would indicate that to distend the vagina with a speculum, transfix and draw down the cervix, scrub its canal and then explore the cavity of the uterus is a procedure not to be undertaken unless there is a prospect of some compensatory benefit to the patient. That this is true has been shown by the recent experience of Franz (*Beiträge zur Geburtshülfe und Gynaekologie*, 1900, Hft. 3), who found that in a large proportion of cases the procedure was followed by a rise of temperature, this being especially noticeable in the cases in which the streptococcus was present. Although his examinations were conducted with the most scrupulous care, he was led to discontinue them out of regard for the interests of his patients. Thomen has also noted the occurrence of a chill and fever after bacteriological examination.

A careful study, then, of other diagnostic signs is important since it is evident that bacteriological examination should be restricted to those cases in which it is necessary for purposes of treatment that the diagnosis be made with absolute certainty; and, as the consensus of modern experience and authority is strongly against active local treatment in true septic (pyogenic) endometritis, it is evident that these cases will be exceptional, unless time proves the efficacy of the serum treatment.

It is often assumed that the mere presence of the streptococcus is evidence of the extension of infection beyond the endometrium, but this is plainly incorrect. This organism is present not only in severe cases, but in all grades of mild cases. Perhaps the last authoritative word upon this subject is that of Kroenig and Menge in their report to the Paris Congress. They conclude that, while of all the offending organisms the streptococcus has the greatest tendency to migrate from the original focus of infection, in the majority of cases, even when the streptococcus is present, the infection remains confined to the endometrium, the process being one of intoxication rather than infection.

The ordinary type of puerperal sepsis, then, is not a general nor even an extra-uterine infection, but an endometritis, septic or putrid, and its extension beyond the endometrium is to be determined by clinical rather than bacteriological data. To wait until the bacteria are found in the blood-current, as has actually been suggested, is to wait too long.

The symptoms of lochiometra usually develop rather late in the puerperium, perhaps at the end of the first week. This is the period at which the signs of uterine and para-uterine phlebitis are noticed. In both cases the uterine interior is smooth. The disastrous results of curettage and even of intra-uterine douching in these cases of phlebitis have been noted in many cases which have been reported and in many more which should have been reported.

With reference to etiology of these cases, the question remains to be answered, How do the bacteria gain access to the genital canal? This question is too often ignored altogether. Anteflexion of the puerperal uterus, with consequent lochial retention can be regarded only as a predisposing cause. We often read of decomposing lochia, but the dictum of science is positive. Neither lochial fluid nor other organic substance can undergo spontaneous decomposition. Here, as elsewhere, we must try to account for the presence of the offending organisms. Infection may, of course, be transmitted in the usual way,

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i. e., by the examining finger, instruments, etc., but since all air contains saprophytes it seems reasonable to suppose that decomposition of clots and other débris may be the result of the admission of air to the vagina and uterus, especially during manipulations in the third stage of labor. This position was taken by the writer in a previous article (*N. Y. Medical Record,* Sept. 17, 1898).

According to Franz the anaerobic saprophytes of the vagina may under certain conditions find their way into the uterine cavity, causing fever of a mild type (*Eintagsfieber*) even in patients who have not been subjected to digital internal manipulations. But the nature of these organisms is by no means well understood, nor has their infectious character been proven, and, moreover, from what we know of Nature's conservative processes in normal pregnancy and labor, the idea of an infectious property in physiological maternal secretions is *a priori* improbable.

Then, too, we must be prepared to answer the question, Why do the germs become active? For it is a fact too often forgotten that the microorganisms of infection, with perhaps the exception of the gonococcus, do not by their mere presence cause fever. If they did it would be far more common than it is. This fact, well known to laboratory workers, is clinically confirmed by the fact that cases treated with no precautions whatever sometimes do well. Saprophytes and pyogenic germs may be present in the vagina and even in the uterine cavity without harm to the patient. Predisposing causes must be present and among these we recognize obstruction to the outflow of the lochia. A consideration of other predisposing causes, *e.g.*, placental retention, frequent vaginal examinations with the traumatism involved, operative procedures, delayed labor, *etc.*, would carry us too far. But the lesson to be learned can be briefly and clearly stated—while the rigorous employment of every method for the exclusion of bacteria is of the first importance, no method of prophylaxis or treatment can be regarded as even approximately correct which does not include a careful study of the predisposing as well as the primary causes of infection.

Superficially considered, there is nothing very striking or dramatic in the study of the various types of puerperal sepsis. It appeals to the thinking man rather than to the mechanical genius. There is more good to be gained by it, however, than by following the migrations of the wandering kidney or suggesting new methods of dividing the symphysis. These things have their place, but it is by the every-day study of every-day topics that we can do the greatest good to the greatest number. And this is the object of our art.

It is a striking anomaly that in obstetrics, the only branch of medical science in which the physician has to deal with two lives instead of one and in which intelligent intervention can do more good than in any other, ancient maxims and stereotyped rules are religiously followed and handed down from one generation to another.

A single familiar case like the one described presents much food for reflection, illustrating, as it unquestionably does, the fact that old errors in the etiology, diagnosis and treatment of puerperal sepsis still hold sway. The remedy is to be found in a judicious questioning of authority and in the detailed and critical study of individual cases. In seeking to clothe a neglected subject with the mantle of true science, we can not do better than to follow the advice of the poet:

"Willst du in's Unendliche schreiten
Geh' nur im Endlichen nach allen Seiten."

MEDICAL AND SOCIOLOGICAL ASPECTS OF THE GALVESTON STORM.

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THE terrible West India hurricane which on September 8th devastated the Island and City of Galveston, as well as the adjacent country for many miles inland, has been described by able writers from all parts of the country. The manifold and heartrending details of the almost unprecedented destruction of life and property have been pictured by the pen and camera of many eye-witnesses, but as the medical and sociological features presenting series of important and interesting facts have thus far not been placed upon record I have taken this task upon myself, and without attempting any exhaustive treatment of the subject I will mention those incidents especially interesting to medical men, and draw such conclusions from them as appear to me to be warrantable. The conditions prevailing subsequent to the storm may be briefly stated as follows:

The appalling loss of life variously estimated as from one-seventh to one-sixth of the entire population amounting to six or seven thousand persons was due to a combination of causes, the chief of which was the failure to recognize the gravity of the situation until it was too late by those who lived in the vicinity of the beach front. Unquestionably many could have been saved had they sought refuge in the less exposed quarters of the city, but the false sense of security, the terrific rapidity of the engulfment and the unprecedented velocity of the wind conspired to swell the mortality to enormous proportions. The immediate cause of death in most instances was drowning. Some were crushed by falling timbers, some imprisoned beneath debris, some killed by flying slate, some knocked from floating rafts and either killed outright or so disabled as to be at the mercy of the raging waters. Sections of railroad track with heavy timbers attached swept with irresistible force, and cutting a wide swath destroyed many.

The doctrine of the survival of the fittest found here an illustration. More women and children were drowned than men, partly for the reason that proportionally more of the latter were enabled by mere physical superiority to buffet with the wind and waters and save their lives, and partly by the

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fact that many men engaged in business were unable to reach their homes in the outskirts, and were thus compelled to remain in safer quarters. Out of some two hundred bodies found upon the mainland shore of Bolivar peninsula about 85 per cent. were women and children. Doubtless the same proportion occurred with corpses found elsewhere. The proportion of the injured to those killed was comparatively small, and the wounds, chiefly contused and incised, were in the main of a minor character, most of all the wounds became infected. There were a few fractures of the skull, the jaw and upper and lower extremities. The probable explanation of this fact (*i. e.*, the general insignificance of the wounds) is that those who were badly wounded were unable to save themselves by clinging to rafts or by swimming and consequently were drowned. Most of the bodies found were either entirely nude or with a small remnant of clothing. Of those who were saved many were entirely stripped of clothing, illustrating the extraordinary force of wind and water.

Some remarkable instances of self-preservation were recorded, men or good sized boys being carried to sea clinging to pieces of wreckage and floating for hours, at length by the mercy of the waves, landed upon the shore of some bayou fifteen or twenty miles from the point of departure. In no case, however, was a person of the female sex thus saved. The following incident is of interest. A house at Bolivar Point in which six soldiers had taken refuge was crushed to fragments; one of the number caught a door as it was broken from its hinges; clinging to this frail raft he floated for twenty-four hours, and drifting with the tide was finally washed ashore forty miles distant; he was the sole survivor of the occupants. If all the horrors of that dreadful night could be depicted, a tale would be told which would far exceed anything from the pages of fiction. Many heroic deeds, where lives were sacrificed in the effort to save others were performed and the heroes remain unknown, unhonored and unsung.

A notable instance of life saving which came to my knowledge should not go unrecorded. A cotton screwman named Martin Smith, although a cripple, at the risk of his own life rescued by means of a little boat over forty women and children. In addition a number of men who by holding to the boat were enabled to reach places of safety.

There is, however, a darker side to this picture. Like the foul beasts and birds of prey, who sniff the carrion from afar, hardly had the water subsided before the human hyenas and vultures commenced their nefarious work, mutilating and robbing the dead, breaking open trunks and pilfering the contents, they lined the storm stricken area and systematically stole everything they could lay their hands on. This horde of thieves gathered from every section, they flocked here from the neighboring country. The police authorities were apparently paralyzed and afforded no protection and for three days, until the city was placed under quasi martial law by the State's authorities, these robbers of the dead and unfortunate pursued their infamous occupation unmolested. Thus everywhere the sheep and goats are intermingled. There is a class in every community whose evil instincts are only held in check by the heavy hand of the law. When the opportunity for escaping punishment is presented they are waiting to embrace it, and there is no crime in the calendar they are not ready to commit. The storm was barely over before the better class of citizens organized themselves for the purpose of relief and rehabilitation. These efforts nobly and ably performed were seconded and made possible by the whole souled generosity of the outside world.

An interesting feature of the relief work was its evil effect in stimulating idleness, rapacity and greed. The gratuitous distribution of food and clothing was hardly commenced before it was found to be necessary to take stringent measures to obviate fraud. Repeaters, *i. e.*, those who would go from one ward commissary to another, and thus secure as large an amount of food as possible, were found to be numerous. A large number of idle and vicious persons were perfectly content with the prospect of free food and clothing to quit work and live a life of ease. This fact together with the increased rate of wages and ample employment of laboring men has made it extremely difficult to obtain female help. If the sociological question is ever propounded as to what influence a West India hurricane may have upon the wages of colored cooks, the answer will be easy in Galveston.

To attend to the wants of those sick and injured, temporary hospitals and dispensaries were organized in various parts of the city. Local physicians, assisted by volunteers from abroad, labored diligently and without reward for the benefit of suffering humanity. Many of them devoted their entire time to this work, although their losses were as great as that of any other class. They neither expected nor obtained any remuneration. The fact that some of our profession might be in pecuniary need seems only to have been remembered in one instance. Dr. W. R. Thompson representing the Washington (Pa.) Medical Society sent through Dr. J. R. Stuart, of Houston, fifty dollars, this money was given by me to two young physicians who needed and deserved it.

Coming to a brief consideration of the effects of the storm upon the public health, popular apprehension existed that serious disease would occur resultant from certain abnormal conditions induced by the storm. Let us enquire what such conditions were, their effects and modus operandi.

1st. *Overcrowding.*—About four thousand houses were totally destroyed, it is safe to estimate that at least two thousand more were rendered uninhabitable, upon a basis of four persons to each house, we have twenty thousand less six thousand drowned, leaving fourteen thousand people who were compelled to seek refuge and overcrowd the houses left habitable.

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2d. *Filth and General Impairment of Sanitation.*—The elements composing this division are so many it is difficult to enumerate them all. Mentioning only the most important ones, we have (a) the intermingling of the contents of thousands of surface water closets and their deposit in the streets, yards, lots and houses; (b) decomposing bodies of man and lower animals by the hundred, festering beneath the debris for weeks exposed to the rays of a tropical sun; (c) decomposition of an immense amount of other organic material, such as food material of all descriptions. Many carloads of rotting grain made the air redolent. (d) The deposit of silt, two or three inches thick, composed largely of decomposing organic material was universal. In spite of a burning sun and dry weather this deposit retained its moisture. (e) Impairment of drainage. This item has been a very serious one. Always a difficult problem to solve here, now the impediments have increased a thousand fold. Holes and irregularities upon lots, streets, and alleys, destruction of grades and filling of drains, cause the water to stand even after a slight rain until it disappears by evaporation or sinks into the soil. This stagnant water is largely intermixed with rotten wood and other organic material. (f) Impaired water closet facilities. As a result of overcrowding, fecal matter was deposited upon floors, in alleys, upon lots and in the streets. Some public buildings, as the court house, where hundreds had taken refuge, were soon in a fearful condition.

3d. *Excessively High Temperature.*—The following data from the U. S. Weather Bureau is self-explanatory and was kindly furnished by Dr. I. M. Cline, Chief of the Bureau at Galveston. Every day since the storm, until September 30th has shown abnormal high ranges of temperature, varying from 3° to 8° F. The average daily excess for the twenty days was 6½° F. The lowest record was in the 17th, 83° F. The highest on the 16th, 87° F. That this excessive atmospheric heat was contributory with other factors in the development of sickness goes without saying. It is important to note in this connection that from September 30th to November 23d the same abnormal heat prevailed, with one or two exceptions.

4th. Resulting from these and other sources of uncleanliness there was an enormous increase of disease bearing insects, especially flies. Mosquitoes we have with us most always. What part they played in the development of disease will be discussed later. But, oh the flies! Never to the writer's knowledge has the Egyptian plague of flies been so fearful, they literally swarmed everywhere. The atmosphere was almost thick with them. In the butchers' pens and stalls the meat was covered with them, they swarmed upon food in the kitchens and dining rooms and constituted living witnesses of the all pervasive filth and insanitation.

5th. *The Water Supply.*—The city is furnished with water chiefly from artesian wells located twenty miles distant upon the mainland. This is piped across the bay. To a limited extent above ground cisterns or tanks are still in use. The main conduit and stand pipe was fortunately uninjured but the pumping station was destroyed. A water famine was imminent, but fortunately was averted by the wisdom and energy of Mr. McMasters, a member of the board of water commissioners, who immediately organized a large force and worked night and day until the damage was repaired and the water was flowing. For three days, the only source of supply was the tanks and a few underground cisterns, all containing water more or less impure. It was six days before artesian water was plentiful. Is it necessary to proceed further with this enumeration? Surely the conditions were sufficient to warrant the popular fear of sickness. It did not require any expert sanitarian to predict the character of disease likely to prevail, for unfortunately similar conditions have occurred from time immemorial.

Like causes produce like effects. Punishment in the shape of disease and death is sure to follow the violation of sanitary laws. Such radical departures, however, from the customary hygienic status so suddenly produced, as in the case under consideration, must be of rare occurrence. The sequence of events, the manifestations and modus operandi constitute the most interesting and practical portion of our enquiry.

I shall not attempt to give the experience of other Galveston physicians to any extent, taking it for granted that my own practice will afford a fair index as to the general situation. The first cases of sickness coming under my observation after the storm appeared to be a mild form of malarial fever. It should be mentioned in this connection that the mosquitoes disappeared entirely for at least a week after the storm. No blood examinations were made, but the clinical events and the therapeutic test pointed to malaria. It should be mentioned, moreover, that in spite of the fact that Galveston is one of the worst mosquito infested places in the world at most all seasons of the year, yet malarial diseases have not heretofore originated in this locality except to a very limited extent, while in our neighboring towns of Beaumont, Alvin and Houston, mosquitoes are far less numerous, but malaria much more prevalent. This fact was forcibly brought to my attention recently when I was called to Alvin to attend a case of pernicious paludal fever. Mosquitoes were so scarce that a bar was not required yet pernicious forms of malarial fever were prevalent. There has been, however, a very notable increase of malarial diseases in Galveston since the storm. The following from the records of the Sealy Hospital exemplifies this fact to a more marked degree than the experience of private practice. In August there were twenty-two cases of malarial fever admitted, in September also twenty-two, while in October there were seventy. Most of these were of the tertian form, a small proportion estivo-autumnal and pernicious. While a certain number of these cases were from the adjoining country, a large proportion originated in Gal-

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veston. Dr. J. B. Massie informs me in regard to our neighboring city of Houston that there has been no unusual prevalence of intestinal diseases, but that malaria has been more prevalent than for many years past and that many deaths have occurred from pernicious forms; a thing rarely reported in previous years.

Whether the difference in regard to the prevalence of malaria in contiguous places is to be explained by the comparative absence of the Anopheles in one locality and their increased presence in others remains to be demonstrated. In my opinion further investigation will show other sources of malarial infection besides mosquito bites and other explanations of the facts mentioned.

The second form of sickness developed was gastro-intestinal catarrh and dysentery. The disposition to these troubles commenced a week or ten days after the storm and was very generally prevalent. A large proportion of the population were affected. Those who came to the city some weeks after the storm were taken with the same malady. In many instances the type was mild, after some nausea, coated tongue, vomiting and diarrhea, recovery ensued with little or no treatment. In a number of cases there were frequent recurrences. Severer forms of diarrhea and dysentery also were prevalent, the latter often proving rebellious to treatment and tending to chronicity. A number of cases in the hospital were of the amebic form. Children as well as adults and both sexes were alike affected. Enquiry failed in most instances to reveal dietetic errors. The drinking water was chiefly artesian, a week after the storm, and was doubtless infected.

The third form of disease to show itself was typhoid fever. My first case came under observation November 1st and is now convalescent, since then six others have come under my care, three in the city and three on the mainland in the storm stricken area. Other physicians make a similar report. The following from the Sealy Hospital records shows the rapid development of typhoid fever. Commencing October 30th, since that date until November 22d, eight cases and two suspects were admitted. Previously during October and September there were no cases.

Scarlet fever, diphtheria, epidemic influenza and dengue. I classify these infections together for the reason that although reported to be present, neither of them are thus far epidemic. In my own practice I have seen two cases each of scarlatina and diphtheria but no positive case of dengue. That the unhygienic condition of the city is favorable for the further spread of these diseases goes without saying. What the future developments may be, remains to be seen, and will depend upon weather conditions and the adoption of vigorous prophylactic measures.

Cases of Mixed Infection—There has been a very curious intermingling of various morbid processes in households, as well as individuals *e. g.*, in one house there were first several mild cases of gastro-intestinal catarrh, then a severe case of dysentery, then two cases of fever apparently malarial. Then again a person would be attacked with severe gastro-intestinal disturbance, nausea, vomiting, diarrhea, prostration, followed by rigors and intense fever. The beneficial effects of quinine in such cases would seem to indicate their malarial origin. In several instances during the progress of a regular typhoid attack such clinical phenomena as repeated rigors, excessively high temperatures, thickly coated tongue with dentated edges, were indications of malarial complications, which appear to have been demonstrated by their disappearance after thorough cinchonism. Still again the following clinical sequences were noted: Choleraic diarrhea, comatose, malarial paroxysms, albuminuria and pneumonia, recovery ensuing under heroic hypodermatic injections of quinine. The last case was at Alvin, a point twenty-five miles from Galveston, where the conditions subsequent to the storm were similar. It would be interesting to ascertain health conditions in various parts of the State and the prevailing types of sickness in comparison with conditions at Galveston. But being beyond the scope of the present inquiry the ignorance in the management of public medical affairs in this State, and the want of a State Board of Health, would render the task of an analytical study of the subject difficult and laborious.

Coming now to a brief consideration of the modus operandi of the above described conditions and results. The extensive prevalence of gastro-intestinal disorders and typhoid fever indicates the invasion of the food and water supply as well as the atmosphere with pathogenic micro-organisms. The first medium of infection was no doubt the drinking water, although the source of supply is mainly from artesian wells, the water from which is unquestionably pure when it leaves the wells, but which might have become infected in the receiving-tank. For three days, however, this supply was completely cut off and the population depended on cisterns, all of which had been contaminated by intermixture with infected salt spray and the washings from unclean roofs. While the artesian water was turned on at the end of 64 hours the provision was limited until Friday, September 14th. Even after this date many persons continued to use cistern water. Dietetic errors, imperfect cooking and the more or less continued use of canned meats and vegetables was responsible to some degree for gastro-intestinal involvement. The *flies*, however, in my opinion, became the most important media of infection when they became so numerous and so difficult to exclude, swarming everywhere and lighting upon the food from the butchers' pens to the dining table in spite of screens and every effort to exclude them; it is easy to understand how they became bearers of pathogenic germs. That the atmosphere was the medium of infection to a certain extent is also clear to my mind. In numerous instances coming under my observation, persons exposed to the emanations from decomposing bodies and other organic matter were

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immediately taken with nausea, vomiting and purging. In other instances houses containing closets connected with overflowing cesspools were contaminated with foul gases. In one such house all members of a large family were sick, some with gastro-intestinal catarrh, one with severe dysentery, others with chills and fever apparently malarial. In another case a man sharing a miserable hut with his horse and cows and breathing the same emanations was the subject of a severe malarial attack. It should be mentioned in this connection that the city is practically without sewerage. There is a private plant, operating in the business districts, which has been condemned by every sanitary engineer who has examined it, which has been foisted upon the city by the verdict of a board of arbitration. Until a modern and more comprehensive system of sewers shall be secured and some adequate method of drainage be adopted, the continued prevalence of typhoid and malarial fever, as well as kindred diseases may be expected. Any scheme of rehabilitation which fails to provide for these great factors in the conservation of the public health will be fundamentally and fatally defective. It is certainly the duty of those best acquainted with these facts to call attention to them in plain and unmistakable language.

CLINICAL MEMORANDUM.

INFANTILISM.

BY W. T. ENGLISH, M.D.,
OF PITTSBURGH, PA.

THE case represented by the photograph is that of a child, aged seven years. Her growth has been retarded and she has a much younger appearance. The mother tells me that at birth this child weighed ten pounds and she grew in size until after the expiration of the first year. At an indefinite period in the second year, growth and development were suspended; no physical or intellectual advance was observed, until about eight months ago, when she was brought to me for diagnosis and treatment, November 24th last.

The father and mother are Americans by birth, free from personal physical blemish and of negative heredity. Two other children, older, have always enjoyed excellent health. The weight of this child when first seen by me was twenty-seven and one-half pounds, and she measured just thirty-two inches in length. The general health was mediocre, the tongue furred, the bowels irregular and inclined to constipation. The urine was normal in quantity and repeated analyses did not betray anything unusual. Pulse-rate 100 to 110, respiration 28, temperature normal. Color was pale and anemic. The skin and subcutaneous tissues were infiltrated and were thick and clumsy, to both sight and touch. The cheeks were chubby, the eyelids swollen, nose broad and flattened, the mouth inclined to remain open, the lips thick and pouting. Cushion-like rolls about the neck, axillæ, abdomen and lower extremities, betraying the general dermal infiltration, were objectified in the profile view. The abdominal protuberance, exaggerated buttocks, the massive thighs appeared in contrast with the pallor and the general aspect of disease. The hair was long and of poor quality and was falling out. The teeth were illy formed and snag-like. The nails were dry. The fontanelles were persistent.

More noticeable than these obvious signs of bodily lack of growth were those betraying mental torpor. The child was carried in the mother's arms. She was unable to walk or even to stand unaided, but fell resistless to the side toward which the body inclined. The face was dull and apathetic. Muscular movements of the extremities were sluggish, because of mental dulness rather than local swellings. Mental and muscular energy were wanting. Speech, if attempted, was not intelligible and resembled the echolalia of the feeble-minded.

Diagnosis may be casually made in similar cases, by signs rather than by careful inquiry after symptoms. This is a plain case of infantilism or myxedematous retardation. Myxedema is generally admitted to be a symptom or combinations of symptoms of inherent or acquired deficiency or disease of the thyroid gland. That infantilism is invariably due to thyroid inadequacy is well established. While much is unknown of the morbid anatomy of myxedema, the principal lesion is laid to the charge of the thyroid.

The treatment has been by thyroid extract. The tablets used were of five grains each. These were divided and one-half tablet administered in broth or bouillon night and morning. Gradually increased, the dosage has reached fifteen grains each day. This amount will be continued for some time.

Thyroid treatment, in cases long neglected, may remove the myxedematous symptoms, but has little or no effect upon the cachexia. This emphasizes the importance of beginning treatment at the earliest possible moment, if the hope of a complete cure is to be entertained. The treatment must be persisted in year by year and possibly continued throughout life.

The results of treatment in this case during the eight months under my care are as follows: Weight began to diminish in a few days after the thyroid was employed and the loss of two and one-fourth pounds at the end of two months might have prompted a change but for other hopeful signs. Moreover, this temporary reduction in weight corresponded with the period of most rapid diminution of the dermal infiltration, and during this time the fontanelles closed as if by magic. This loss was recovered rapidly, so that at the end of the third month the weight was the same as at the beginning of

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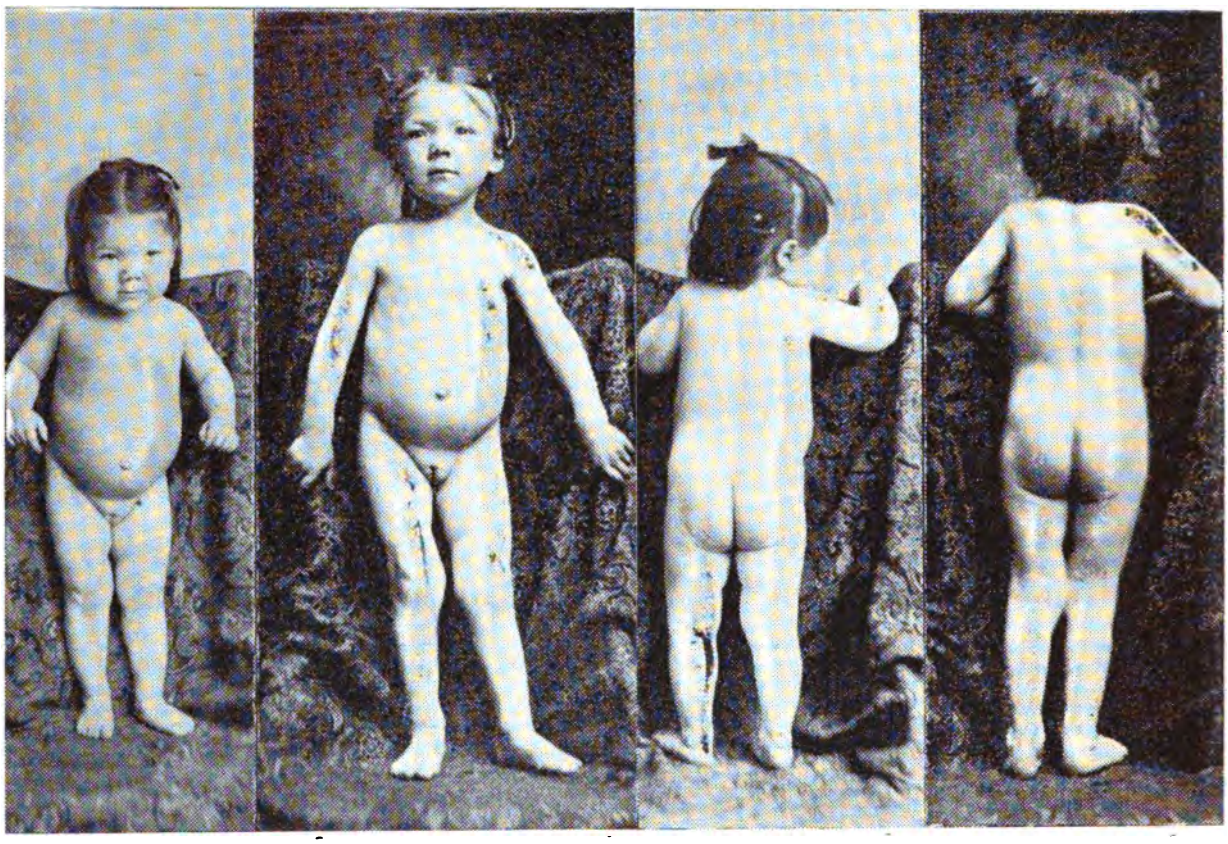
treatment. This ratio of increase continued throughout the fourth, fifth, and sixth months, so that six and three-fourth pounds were added. During June the growth was much slower and three-fourths pounds were accumulated. The total weight gained after recovering the two and one-half pounds lost is seven and one-half pounds; but if we add the two and one-half pounds regained, after reduction of infiltration, there is an aggregate increase of ten pounds. This extends the weight from the original twenty-seven and one-half pounds to thirty-five pounds, the present weight.

anemic pallor of the surface of the body has given way to a wholesome ruddy hue. The hair has improved in quantity and quality and the teeth and nails are assuming a normal appearance.

The changes that have come over this child during the eight months past exemplify what can be done for these cases of myxedematous retardation by the use of thyroid. Muscles and mind are restored to activity, and speech, so long denied, now mingles with song and laughter.

Although still in arrears, compared with children of her age, in mental and bodily capabilities, the prognosis is full of hope. That this child will yet attain mental and bodily vigor, equal to that of other children of the same age, is assured by every return from the treatment during the short period of eight months. Greater results will follow as the treatment continues, and at the termination of another year, few if any traces of the long drowse of mental and physical powers will be detected. At the period of maturity, if the child's health continues, and the treatment is unremitting, there will be an equality, mental and physical, with others of her age, and thus the time lost will be redeemed.



November 25, 1899. July 25, 1900. November 25, 1899. July 25, 1900.

The month of June was the month of the greatest muscular and mental activity of the child's life, and therefore a period of development rather than augmentation in size. In July she increased one inch in height, but the weight remained stationary. The length of the child was found slightly extended after the lapse of the first six weeks of treatment, but a gradual increase has persisted, giving a total of thirty-seven inches—a gain of five inches.

The pulse, respiration and temperature and general health have continued fairly constant to the normal lines. The pulse being the most vacillating, at times, without cause, accelerating and departing from the normal rhythm. The

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MEDICAL PROGRESS.

Transmission of Yellow Fever.—The Army Yellow-Fever Board has recently made a very careful investigation into the causation and transmission of yellow fever and seems to have conclusively proven that the mosquito is responsible for the spread of this disease, as well as that of malaria. C. FINLAY (*Med. Rec.*, Jan. 19, 1901) reminds us that he wrote a paper in 1891 in which he advanced the theory that this disease was in all probability communicated by means of the *Culex* mosquito, since it would be difficult to explain the peculiarities in the propagation of this disease in any other way. He was, however, unable to prove his theories. The climatic and topographical conditions favoring the communication of yellow fever are: Temperature from 70° to 90° F.; atmospheric moisture with proximity to the sea and low altitudes (usually not above a few hundred feet). These same conditions are necessary for favorable development of the mosquito. Only lately the crucial test has been made by experimental inoculation. Characteristic attacks followed each of five inoculations after an incubation of three and one-half to four days.

Dyspeptic Asthma.—Nearly all authorities describe an acute form of this condition, with sudden onset after a heavy or indigestible meal and a rapid subsidence of all the alarming symptoms after the stomach is emptied of the gas or disturbing food. F. H. MURDOCK (*N. Y. Med. Jour.*, Jan. 12, 1901) has seen a number of cases which he describes as chronic dyspeptic asthma. It is characterized by severe dyspnea on slight exertion, occurring in patients suffering from gastro-intestinal troubles, without any organic lesion of the lungs, heart or kidneys, and yielding to treatment of the digestive tract. Eating does not usually increase the dyspnea, unless exercise is indulged in; vomiting seldom occurs and belching does not relieve the symptoms as it does in the acute forms. The constant appearance of shortness of breath after the slightest exertion is the chief point of interest. Severe attacks will pass off within a few minutes without the aid of medicine, and without vomiting or belching of wind, but the permanent relief of the symptoms must be sought for through the treatment of the digestive organs.

Ear-Disease.—In a very interesting paper read by W. H. THOMSON (*N. Y. Med. Jour.*, Jan. 12, 1901), on the "Importance of a Knowledge of Ear-Disease to the General Practitioner," he has very clearly demonstrated by practical examples the grave responsibility which rests upon the physician who is unable to recognize the early symptoms of serious ear-trouble and its complications. In speaking of vertigo he classifies it as follows: (1) Gastric or digestive; (2) cardiovascular; (3) ocular; (4) aural. The first may annoy the patient greatly, but he is seldom frightened. The second variety, when due to weakness of the heart, is always accompanied by nausea and is usually transient. Ocular vertigo has a purely psychical basis. It does not occur in the dark, but the eyes must be open and looking out. Its explanation is that the general muscular tonus which maintains our equilibrium has for one of its main elements the knowledge reaching the centers through the optic nerves and when the eyes suddenly find a lack of surroundings the muscular tone loses its ordinary stimuli and general muscular tremor results. Closing the eyes or fixing them upon a near-by object usually relieves the sensation. In aural vertigo, however, when the semicircular canals are involved the patient feels as if he were dropped into a bottomless pit and the employment of the muscular and visual senses are of very little benefit in giving relief. Fear is an invariable accompaniment and may outlast the vertigo. All cases of dizziness, when fear is an important symptom, or which comes on when the patient is lying down, demand a careful examination of the ears.

Treatment of Whooping Cough.—After considering briefly the etiology of this disease H. F. THOMPSON (*Phila. Med. Jour.*, Jan. 12, 1901) discusses the treatment and reports in detail five cases which he has treated recently with heroin. He finds that heroin administered in whooping-cough allays the cough and eases respiration, the number of respirations being reduced, but their force and volume of inspired air being increased. The drug was always well tolerated, and rendered the attacks much more infrequent and less violent, while there was also an improvement in the general condition of the patients. In Case I., aged twenty months, with a very severe cough accompanied by vomiting, heroin, gr. $1/48$, at intervals of four to eight hours, given for four days, brought about the complete disappearance of the cough with no unpleasant complications. Case II., aged four years, had had pertussis for four weeks. The paroxysms were very severe. Heroin, gr. $1/24$, was given every four hours for several days, with a rapid amelioration of all symptoms. Case III., an adult, took several doses of heroin at irregular intervals and was much relieved. The symptoms gradually subsided and the cough disappeared. Case IV., aged fifteen months, had had whooping-cough for three months, vomiting every day. Four doses of heroin, grain $1/24$, stopped the cough for several days. On the reappearance of the cough heroin, grain $1/24$, three times daily resulted in the prompt subsidence of all the symptoms of pertussis. Case V., an adult, took heroin, grain $1/12$—in all, six doses—for pertussis which he had had for a week, with the result that the severe retching and almost constant cough disappeared promptly and entirely.

Removal of Cataracts in the Insane.—WILLIAM CAMPBELL POSEY (*University Medical Magazine*, Dec., 1900) cites two cases in both of which loss of sight precipitated loss of mind, and

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restoration of vision was attended by immediate and permanent return of normal mentality. The first patient was a man, forty-five years of age, and was said to have had cataracts which had rendered him practically blind for three years previously. His loss of vision was attributed to the grip. His father had been insane. As his vision began to deteriorate, his mind began to fail also. He became irritable, morose and greatly depressed, and thought that his wife and his friends were plotting against his life. He threatened to kill his wife and finally tried to cut his own throat. His condition was one of great depression, he was not excited, but the delusions of persecution persisted. Rest and tonic treatment did no good. Posey examined the man's eyes and found a cataract in each. Under ether the ripest cataract was removed. The bandages were removed at the end of the tenth day. A noticeable improvement in his mental condition began to be apparent as soon as he was permitted to see, even before the correcting glasses were prescribed. At the end of a month his glasses were given him and his mind was in such a condition a few weeks later that he was permitted to go home. There has been no relapse in his mental condition in over two years, and he continues to be a sober, rational and happy member of society. The second case was a woman, sixty years of age, whose sight had been failing for several years, until she was unable to read or to get around the house without difficulty. As her sight failed her mental condition changed. She became much depressed and melancholic, fearing that she was becoming hopelessly blind. An examination showed a cataract in each eye. Her mental condition became so depressed that it was almost impossible to live in the same house with her and it was decided to remove the ripest cataract. Her mental condition became markedly improved as soon as she knew the cataract was removed and that she could see clearly with that eye. At the end of six weeks she received correcting glasses. She regained her normal mental condition and there has been no relapse. Posey thinks that, while such cases are rare and all efforts may be unavailing, every means which may possibly better the condition of the blind insane should be tried.

THERAPEUTIC HINTS.

Hemorrhage in Typhoid.—Avoid all movement, writes Mitchell Bruce, even for the use of the bedpan, collecting the stools in a properly arranged towel. Reduce diet to a minimum, giving, for example, half an ounce of peptonized milk every half-hour, or a teaspoonful of meat jelly every hour. Thirst may be relieved by wetting tongue and lips, or with a teaspoonful of quite warm water, plain or acidulated; this is better than ice. A hypodermic of morphine arrests peristalsis and aids in producing sleep and mental rest. An attempt should be made to stop the bleeding by astringents, the most powerful of which is a mixture of lead acetate, morphine acetate, and diluted acetic acid in water, or lead-and-opium pill, or lead acetate suppositories; or an ice-bag may be applied to the right iliac fossa. Brandy is to be given, with the finger on the pulse, in greatly reduced dozes at very short intervals, for instance, grams 2.0 (℥ xxx) every half-hour in a tablespoonful of milk, so that whilst the heart is never excited by the alcohol, its strength is sustained. The value of hamamelis, ergot, and turpentine is still an unsettled question.—*Treatment in Practical Medicine.*

Acute Gout.—A sufficient quantity of colchicum should be given, writes Roberts Bartholow, to increase secretion from the skin, the intestinal mucous membranes, and the kidneys, but nausea and vomiting should be avoided. Combination with an alkali increases the therapeutical effect, as:

℞ Vin. seminis. colchici..... 12.0 (ʒ iij)
Spt. ammon. aromat....ad. 60.0 (ʒ ij)
M. Sig.: Grams 4.0 (ʒ j) q. 3 h. until some physiological effect is produced. The London Hospital formula is:

℞ Tinct. colch. sem..... 1.3 (℥ xx)
Potass. bicarb..... 0.7 (gr. x)
Aq. pimentæ.....ad. 30.0 (ʒ j)
for one dose. After the more acute symptoms have subsided the following of Sir Henry Halford may be used:

℞ Ext. colch. acet..... 0.4 (gr. vj)
Pulv. ipecac et opii.....
Ext. colocynth. comp. aa. 0.8 (gr. xij)
M. Ft. pil. No. xij. One night and morning.
Or the following:
Ext. colch. acet..... 0.7 (gr. x)
Pulv. digitalis.....
Ext. colocyath. camp. aa. 1.3 (gr. xx)
Ft. pil. No. xx. One two or three times a day.
—*Materia Medica and Therapeutics.*

Pericarditis.—If sthenic, writes H. A. Hare, five or ten leeches may be placed over precordium, and aconite or veratrum administered. Calomel, gram 0.03 (gr. ss), every hour, with opium to prevent purgation, tends to prevent plastic exudate. An ice-bag to precordium quiets the circulation, lessens inflammation, and reduces temperature. If effusion takes place, the heart may need digitalis, caffein, or alcohol; if effusion is large, aspiration is advisable. The best place for making the puncture is in the fourth or fifth intercostal space one inch to left of sternum. Should pus be present, free drainage should be gradually established. If the patient is strong a hydrogogue purgative, such as compound jalap powder, gram 1.3 (gr. xx), elaterium, gram 0.01 (gr. 1/6), or a concentrated saline may be effective. A blister over precordium is often of use.—*Practical Therapeutics.*

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SATURDAY, FEBRUARY 2, 1901.

NEW YORK STATE MEDICAL SOCIETY.

IN his inaugural address before the New York State Medical Society at Albany this week the President drew attention to what is a grievous and outrageous bill presented to the legislators by Senator Grady, of this City. The origin of its provisions appears to be the various hospitals of the city, notably St. Vincent's and Mt. Sinai, in an organized effort to put all responsibility for malpractice upon the attending physician or surgeon and relieve the hospital of it. This means that whatever ignorance of a pupil-nurse, or whatever inexperience of a young interne, or whatever official neglect on the part of the hospital may be adduced as contributive or essential to the victim's misfortune, the final legal responsibility, in terms of money, well-deserved reputation and high professional position, shall rest with the member of the medical board attending the patient.

When one reflects upon the relation of principal and agent existing between these institutions and their attending staff, upon the fact that the medical service rendered is always the best in the power of each and never under remuneration, and upon the universal usage by which a person is admitted as the patient of the hospital and never of any given man, it seems that some one has erred by intention or accident in fancying that such a bill will be just. To defeat overwhelmingly this measure should be the purpose and endeavor of every reputable medical man and organization in this State, whether the effort be made through his own representatives in both legislative halls at Albany or through his Society or in any other way.

At this very session a wise bill will be presented providing that any one suing a physician for malpractice shall deposit a bond which shall be forfeited to the defendant if the suit fail. Hospitals might be included. At any rate, let us not brook for one instant any attempt to work such inexpressible, heinous and outrageous injustice as the bill of Senator Grady implies.

Another question officially brought by its President before the meeting of the State Medical Society is concerned with the organization of an association among the medical profession of the Atlantic Coast States similar to that which exists in the Valley of the Mississippi and Slope of the Pacific. Fully sixty per cent. of our brethren practise along the Atlantic and yet are behind the others in not uniting thus. Such a society would be a potent factor for public and professional good, would deserve the endorsement and cooperation of all first-class men and fulfil many interstate needs. Its official organ would be among the best in the country. We say, then, all hail, success and prosperity to a movement which when duly begun will deserve generously all these and more *in perpetuam.*

Judged from all points of view, scientific, social and economic, the present meeting of the New York State Medical Society was an immense success and the deliberations of this body demonstrate anew its great usefulness to the practitioners of the State.

THE PROGRESS OF MEDICAL EDUCATION IN AMERICA.

WE publish this week the first of a series of articles that will appear from time to time in the MEDICAL NEWS on the medical colleges of the United States.

In contrast to the three medical schools that existed at the beginning of the nineteenth century there are to-day one hundred and fifty-five in this country. Many of these are small and unpretentious institutions, but there are a large number of the first rank, and with their history is bound up the story of the progress of medicine during the century.

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The increasing of the former regulation course of two years to four, the illustrating of once dry, statistical lectures with clinical material, the equipment of laboratories for the practical study of every technical branch of medicine, all are not only indications of the increasing power and prosperity of any individual college, but are significant of the vast strides that the subject of medicine has taken, and of the amount of information that every well-equipped institution has stored up for its students.

Nothing, perhaps, indicates the change in the spirit of the times so much as the business methods on which the colleges are now managed. Until within the past twenty years all the medical schools, even those connected with the large universities, were practically private corporations. The members of the faculty took all the fees, spent what money was absolutely necessary to provide what would appear now to be a very scanty and meager education, and divided the profits. But at the present day the fees are taken by a board of trustees, who pay salaries to the faculties and spend the rest upon the development of the college along the most liberal lines.

Every new acquisition to each college has signalized a broader spirit of education for the country at large, for the progress of each is an incentive to all the others. To the medical practitioner the opportunity is given in this series of articles to see, not only what his own *alma mater* has contributed to the profession, but how all have worked together, supplying knowledge, experiment and incentive to investigators and to students, and how the history of the development of the medical colleges of America is in reality the history of American Medicine.

DR. OSLER ON THE PROGRESS OF MEDICINE.

THE lifting of the curse of suffering from the sin-begotten sons of Adam by the medical discoveries during the last hundred years has been the greatest gift of the century.

Dr. William Osler, M.D., F.R.S., in his fascinating review of the history of "Medicine in the Nineteenth Century," published in the New York *Sun* of Sunday, January 27th, states emphatically that, measured materially or sociologically, there is no one thing that can compare with the decrease of physical suffering in man, woman and child when stricken by disease or accident.

The greatest discovery, measured by the life-saving standard, that medicine ever witnessed occurred in the latter part of the eighteenth century, when Dr. Jenner established a means of preventing smallpox. When we remember that 2,000,000 people died in Russia in a single year of this disease, and that it was rare in Jenner's day to meet an Englishman who had not had it, we realize that the century dawned auspiciously with such a discovery.

The first steps toward further knowledge of disease, as Dr. Osler points out, were fundamental and related to a more thorough knowledge of morbid anatomy, physiology, chemistry and pathology. The careful studies by Laennec of the heart and lung and abdominal organs really laid the foundation of modern clinical medicine, and excellent work in France and America differentiated fevers, typhoid, typhus, yellow fever and the malarial group.

But the most distinguishing feature of the scientific medicine of the nineteenth century has been the phenomenal results which have followed *experimental investigation*, along lines which have determined the condition of the organs in health and the conditions under which perversions of these functions occur in disease.

Although the contribution was written for the general reader even physicians cannot help but be lost in wonder, as the vivid strokes of Dr. Osler's pen portrays one discovery after another, that so much has been done in a single century. The exploding of the "spontaneous generation" theory, and the establishing of the bacterial origin of many diseases, the laws of sanitation, and the discovery of means of contagion that have kept bubonic plague and cholera from our shores, the stamping out of smallpox and yellow fever, the blessings of anesthesia in operations and in childbirth, the discovery of antisepsis in surgery, and the lessening of mortality in childbearing, the remarkable methods of treating and caring for the insane, the decreasing number of cases of contagious diseases, and the treatment that tends to recovery, especially in diphtheria and typhoid, the establishing of hospitals and clinics, and the training of nurses, and, above all, the possibility of checking man's greatest foe, tuberculosis, all these factors of modern medicine are the result of the last fifty, many of them of the last thirty years' investigation.

We cannot but wonder how Dr. Osler's summary would read in the year 2001, and whether it would seem but the alphabet of the twentieth century's record. Certain it is that whatever the future unfolds will be the result of the investigations of the nineteenth century.

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In conclusion he notes the tendency at the decline of the century to return to psychical methods of cure, in which faith in something is suggested to the patient. "After all," he says, "faith in us, faith in our drugs and methods, is the great stock in trade of the profession. In one pan of the balance put the Pharmacopœias of the world, all the editions from Dioscorides to the last edition of the United States Dispensatory; heap them on the scales as did Euripides his books in the celebrated contest in the Frogs; in the other put the simple faith with which from the days of the Pharaohs until now the children of men have swallowed the mixtures these works describe, and the bulky tomes will kick the beam."

TO EXCLUDE THE QUACK.

A new medical bill has just been introduced into the Senate of New York State which demands the attention of every practitioner in the State. After certain minor modifications it should, we believe, receive their earnest support. The text of the proposed bill is as follows. The matter in italics is new.

Section 1. Section one hundred and fifty-two of chapter six hundred and sixty-one of the laws of eighteen hundred and ninety-three, entitled "An act in relation to the public health, constituting chapter twenty-five of the general laws," is hereby amended to read as follows:

Section 152. Construction of this article. *Any person shall be regarded as practising medicine within the meaning of this act who shall prescribe, direct, recommend, or advise, for the use of any other person, any remedy or agent whatsoever, whether with or without the use of any medicine, drug, instrument or other appliance, for the treatment, relief, or cure, of any wound, fracture, or bodily injury, infirmity, physical or mental or other defect or disease.* This article shall not be construed as *prohibiting the service of any person in an emergency, or the domestic administration of family remedies; nor shall it be construed* to affect commissioned officers serving in the United States army, navy or marine hospital service, while so commissioned; or any one while actually serving on the resident medical staff of any legally incorporated hospital; or any legally registered dentist exclusively engaged in practising dentistry; or any manufacturer of artificial eyes, limbs or orthopedic instruments or trusses in fitting such instruments on persons in need thereof *when such artificial eyes, limbs or orthopedic instruments or trusses are prescribed by lawfully qualified physicians;* or any lawfully qualified physician in other States or countries meeting legally registered physicians in this State in consultation; or any physician residing on a border of a neighboring State, and duly licensed under the laws thereof to practise medicine therein, whose practice extends into this State, and who does not open an office or appoint a place to meet patients or receive calls within this State; or any physician duly registered in one county called to attend isolated cases in another county, but not residing or habitually practising therein. This article shall be construed to repeal all acts or parts of acts authorizing conferment of any degree in medicine causa honoris or ad endum or otherwise than on students duly graduated after satisfactory completion of a preliminary and medical course of not less than that required by this article, as a condition of license.

Section 2. This act shall take effect immediately.

The bill calls for little comment; its provisions are straightforward and its purposes plain. It is not special, nor class legislation; it does not seek to hinder legitimate competition; it is not meant to work hardship on any class, especially not the manufacturers of proprietary remedies, who seem to be arrayed against some of its provisions; it is simply a plea to protect the community from the quack and the charlatan.

"A law for the purpose of protecting the people from incompetent practitioners of medicine, which compels educated physicians to undergo examinations to demonstrate their ability, and which cannot be enforced against quacks and charlatans—who, because they do not use drugs, claim they are not practising medicine within the meaning of the law—certainly cannot be said to accomplish the purpose for which it was enacted." Such are the provisions of our present medical law, and it is time that a more radical and perfect instrument should be placed on our statute books.

THE LUNACY COMMISSION BILL.

THERE is one feature in the modified Lunacy Bill that calls for indignant protest. According to the first provisions of the statute it was necessary for the President of the Commission in Lunacy to be a practising physician of ten years' standing and to have had five years' special training in hospitals for the insane. As it now reads, this last clause is amended and any physician of ten years' practice is deemed a worthy candidate for the responsible position.

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We believe this proposition to be preposterous, if not outrageous. There is no work connected with medicine that needs so much careful and special training as that related to the study and care of the insane person. To assume that any physician of ten years' general practice who probably does not see ten patients, in the ten years, afflicted with a mental malady is thoroughly equipped to look after the thousands of New York State's insane is to take a position that admits of little but condemnation. The inference that there are no qualified and able men is distinctly unfounded.

It is to be hoped that Governor Odell's economic utterances are not the usual virtuous platitudes of those in high office, and that in the Brackett Bill he will be as capable of spying this weak place as he is in ferreting out wasteful expenditures of the taxpayers moneys.

ECHOES AND NEWS.

NEW YORK.

Physician to County Jail.—A competitive examination for this position, paying $1,000 a year, open to residents of New York County only, will take place February 16th, 1901, in New York City.

Arsenic in American Beer.—It was stated last week at the meeting of the Society of Chemical Industry that arsenic had been found in appreciable quantities in American glucose, notwithstanding the reports to the contrary. This statement is said to have been made by Dr. A. C. Langmuir, of New York. Should this be true its presence in beer could not be gainsaid. Dr. Coblentz, of the College of Pharmacy, maintained that the Gutzeit test employed by Dr. Langmuir was not a trustworthy one to decide the question.

New York Academy of Medicine.—Order of business for stated meeting, February 7th, 1901: (I) Presentation of a bust of the late Dr. Horace Green, by Dr. D. B. St. John Roosa. (II) Papers on the Conservative Operations upon the Uterine Appendages. (*a*) On Their Technic, by Dr. Dr. J. Riddle Goffe. (*b*) On the Significance and Importance of Such Conservative Operations, by Dr. W. M. Polk. (*c*) On the Immediate and Remote Results in One Hundred Cases of These Operations, by Dr. W. L. Burrage of Boston, Mass. (*d*) An Experience in One Hundred and Twenty-five Similar Cases, by Dr. A. P. Dudley. Drs. Coe, Boldt, Wiggin, and Grandin will take part in the discussion.

Dr. Frank C. Merriam.—The Society of the Alumni of the City Hospital at their last meeting adopted the following preamble and resolutions on the death of their fellow member, Dr. Frank C. Merriam: "*Whereas,* In the death of Dr. Merriam we have lost an esteemed and valued friend, associated with us in the membership of our Society for nearly its entire existence, we desire to acknowledge the mutual friendship and helpfulness we have enjoyed from these years of association. Therefore, be it *Resolved,* That we express our sincere and heartfelt sorrow at his death, and that our deepest sympathy be tendered to his bereaved family. Further be it *Resolved,* That a copy of these resolutions be sent to the family, to the medical journals, and be entered upon the minutes of our Society. Adolph Rupp, M.D., A. T. Muzzy, Wm. L. Stowell, *Committee.*

New York State Medical Association.—A meeting of the members of the Fifth District Branch of the New York State Medical Association residing in Westchester County was held on Tuesday, January 22d, at two o'clock, at the house of Dr. N. J. Sands in Portchester, at which was organized the Westchester County Medical Association and the following officers elected: President, Dr. N. J. Sands; Vice-President, Dr. J. L. Porteous, of Yonkers; Secretary and Treasurer, Dr. Donald T. MacPhail, of Purdy Station, N. Y.

A meeting of the members of the Second District Branch of the New York State Medical Association residing in Rensselaer County was held in Troy on January 10, 1901. The Rensselaer County Medical Association was organized, by-laws adopted, and the following officers elected: President, Dr. C. S. Allen, of Rensselaer; Vice-President, Dr. M. B. Hutton, of Valley Falls; Secretary and Treasurer, Dr. F. A. Smith, of Troy.

Mount Sinai Hospital.—Work is to be begun immediately on the new Mount Sinai Hospital, which is to cover the entire block between Fifth and Madison Avenues and 100th and 101st Streets and is to cost, including the site, $1,600,000. Of this amount all but $225,000 has now been subscribed. That was the announcement made last week when the Mount Sinai Hospital Association held its annual meeting in the Hospital Training School, at No. 149 West Sixty-seventh Street. The annual report acknowledges donations to the new enterprise to the amount of $470,000. Of that sum $75,000 has been subscribed to the building fund within the last two weeks, and other individual donations of $50,000 and $20,000 respectively are now made public for the first time. There will be in all nine buildings. Their general style of architecture will be Romanesque and the material used will be brick, with stone trimmings. The executive building and wings will occupy the 100th Street side. On the 101st Street front will be the building for surgical and medical cases which will have accommodations for about 360 patients. The dispensary building and training school will be on the Madison Avenue corners, while the private hospital, perhaps the most ornate structure of all, will have the frontage in Fifth Avenue. Accommodations for the children's pavilion, kitchens, laundry, isolation and pathological buildings will be found on the 101st Street side.

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PHILADELPHIA.

Philadelphia Hospital.—Plans for a new site and buildings for the insane department and a building for the treatment of skin diseases have been approved. With improvements and a complete reorganization it is destined to become one of the greatest public hospitals in the world. Thirteen additional members of the medical board have been recently elected, making in all 66 visiting physicians.

Antivivisection Society.—The annual meeting of the American Antivivisection Society was held in this city January 24th. Addresses were made by Matthew Woods, M.D., who was elected President for the ensuing year, and by others. The Secretary's report drew attention to what were declared to be abuses of vivisection at Jefferson Medical College during the past summer, certain people having been disturbed by the cries of dogs coming from a room in the College. It was claimed that the authorities of the College refused to answer letters regarding the matter. Inquiries fail to show that such letters were received.

Medical Schools and the State Medical Council.—The discussion regarding the requirements of candidates for license to practise medicine in Pennsylvania and, growing out of this, the entrance requirements of medical schools, is still in progress. A recent issue of the *Pennsylvania State Medical Journal* gives the position taken by the Council. The report that the large number of failures—42 per cent.—at the December examination of the Board was due to the raising of the literary standard was hardly correct. A member of the Council states that a large number of the 87 candidates were those who had previously failed one or more times, although the grading was perhaps a trifle more close than usual.

Hereafter a graduate in medicine who has not had four years' instruction in a medical school cannot take the examination for State license. This ruling clashes with medical schools which allow college graduates, students in dentistry, pharmacy, etc., to enter the second year. The Medical Council disclaims any attempt to discriminate against collegebred men, but wishes to see the standard of the medical profession raised, the barring of illiteracy, and the inauguration of a systemized curriculum in every medical school, such curriculum extending over four full years. It is the belief of the Council that medical schools should have such a curriculum that students must enter the first year of the course, a thorough preliminary education being needed for the comprehension of even the first year. It is stated that the only medical school in the State which has thus far adopted a systematized curriculum is the University of Pennsylvania. As a result of this only ninety-eight out of between two and three hundred candidates were accepted in the examinations of the fall of 1900.

CHICAGO.

New Editor of "Chicago Clinic."—This journal hereafter will be edited by Dr. M. P. Hatfield.

Appointment of Dr. Zapffe.—Dr. Fred C. Zapffe has been appointed Professor of Histology in the Medical Department of the University of Illinois (Chicago College of Physicians and Surgeons).

Smallpox.—The City Health Department has called attention to the fact that nearly all the persons who are suffering with smallpox at the Isolation Hospital were never vaccinated or had not been vaccinated in recent years.

Additions to the Corps of Teachers at Rush Medical College.—These are D. G. Lingle, Professor of Experimental Physiology; W. D. Zoethout, Laboratory Professor of Neurology; F. C. Waite, Assistant in Anatomy, and C. H. Miller, Technical Assistant in the Department of Anatomy.

Chicago Neurological Society.—At a meeting held January 17th, the following officers were elected: President, Dr. Hugh T. Patrick; Vice-President, Dr. L. F. Barker; Recording Secretary and Treasurer, Dr. Sydney Kuh; Corresponding Secretary, Dr. Charles H. Lodor; Member of Council, Dr. Daniel R. Brower.

Disinfection of Books.—The Board of Public Library Trustees recently adopted a resolution by Dr. W. A. Kuflewski, of providing for the appointment of a special committee to disinfect all the books on the shelves of the library. Several cases of disease have recently come under the observation of Dr. Kuflewski which convinced him that disease is spread by means of the books in the public library. Sick people are great readers and frequent the library more than any other class. The books can be disinfected at a small cost, and the public is entitled to this protection.

American Medical Missionary School.—Backed by the Battle Creek (Michigan) Sanitarium, the American Medical Missionary College in this city will erect two four-story buildings for its own use in the neighborhood of the Cook County Hospital. These buildings will house the college, hospital and afford dormitories and dining-halls for the students. The outlay contemplated is $150,000. The college has been in existence five years and was incorporated under the laws of Illinois. Dr. J. H. Kellogg is the chief physician and instructor at the college.

GENERAL.

Plague in England.—Another death from the plague has occurred among the members of the crew of the British steamer "Friary," which left Alexandria December 22d, bound for Hull, by way of Algiers.

Society of Pathologists and Bacteriologists.—An American Association of Pathologists and Bacteriologists was instituted at a meeting held in New York City January 26, 1901. The fol-

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lowing officers were elected: Dr. W. T. Councilman, President; Dr. H. C. Ernst, Secretary; Dr. Eugene Hodenpyl, Treasurer. The first regular meeting of the Society will be held in Boston April 5th.

Plague in San Francisco.—Professor Frederick G. Novy, of the University of Michigan, left last week on an important mission for the United States government. He goes in all possible haste to California to investigate the likelihood that the bubonic plague, or "black death," is about to break out there, and, if such be the case, to institute every repressive measure known to medical science. It is understood that Dr. Novy is to carry on the work suddenly interrupted by Dr. Kinyoun's illness.

"Journal of Hygiene."—The first number of this new journal, to be devoted to original work in hygiene has just appeared. The senior editor, Dr. George F. Nuttall, is well known for his excellent work. The papers in this number are varied and valuable. Anopheles and the Distribution of Malaria, Pathogenic Organisms in Milk, Industrial Lead-Poisoning, Carbonic Acid in the Air, Artificial Modification of Toxins, Isolation Hospitals and Scarlet Fever. These, with other short notes, show the wide interests that the new journal will subserve. It is to be published quarterly at a price of $4.00.

American Medico-Psychological Association.—The next annual meeting of the American Medico-Psychological Association will be held in Milwaukee, Wis., June 11, 12, 13 and 14, 1901. The date has been placed a little later than usual that this deservedly popular convention city may be visited at a pleasant season. Hotel Pfister, selected for the meeting of the Association, has ample accommodation for all members and offers special rates. Its rooms are airy, spacious, and well furnished; it has an excellent auditorium, a pleasant restaurant, and a large banqueting-hall. A full attendance at the meeting, which promises to be one of unusual interest, is earnestly desired. Will those members expecting to read papers, kindly send titles thereof to the Secretary as early as possible. It is announced with much satisfaction that Dr. Warren P. Lombard, Professor of Physiology in the University of Michigan, will deliver the annual address. This will have to do with Re-enforcement and Inhibition of Nervous Processes.

Cause of the Queen's Death.—The most authentic account of the cause of the Queen's death is that derived from the *British Medical Journal* as follows: "The Queen's health had been failing for the past twelve months. The symptoms were mainly of a dyspeptic kind and were accompanied by impaired general nutrition and periods of insomnia and later by occasional slight and transitory attacks of aphasia, the latter suggesting that the cerebral vessels had become damaged. Dyspepsia, which tended to lower her Majesty's original robust constitution, was especially marked during her last visit to Balmoral. It was there that the Queen first manifested distinct symptoms of brain fatigue and lost notably in weight. These symptoms continued at Windsor, where, in November and December, 1900, slight aphasic symptoms were first observed. They were always of an ephemeral kind and were not attended by any motor paralysis. The Queen suffered unusual fatigue on her journey to Osborne on December 18th, showing symptoms of nervous agitation and restlessness which lasted for two days. A few days before her final illness, transient but recurring symptoms of apathy and torpor with aphasic indications and increasing feebleness gave great uneasiness to her attending physicians.

On January 16th the Queen showed for the first time some symptoms of mental confusion. By an effort of the will, however, Her Majesty would for a time, as it were, command her brain to work, and the visitor of a few minutes would fail to observe signs of cerebral exhaustion. On Thursday of week before last the mental confusion was more marked with considerable drowsiness and a slight flattening was observed on the right side of the face. From this time on aphasia and facial paresis, although incomplete, were permanent. On Friday the Queen was a little brighter. On Saturday evening there was a relapse and graver symptoms, which, with remissions, continued until the end. It is important to note that, notwithstanding the great bodily weakness and cerebral exhaustion, the heart's action was steadily maintained to the last, the pulse at times evincing increased tension, but always regular and normal. Frequently the temperature was normal. Throughout the last few hours of life paresis of the pulmonary nerves set in, but the heart beat steadily to the end. Beyond the slight right facial flattening there was never any motor paralysis. Except for the occasional lapses, the mind cannot be said to have been clouded, and within a few minutes of her death the Queen recognized several members of her family."

Obituary.—Dr. James Watson Stronach, formerly a New York physician, died suddenly last week at his residence, 35 Romore place, Belleville. He was sixty-seven years old. Death was due to heart trouble. Dr. Stronach was born in Forres, Scotland, and came to this country in 1860. He was graduated from the College of Physicians and Surgeons in New York and practised for some time in this city.

Dr. William H. H. Parkhurst, eighty-eight years of age, died in Frankfort January 22d. He was one of the oldest doctors in the Mohawk Valley, having been in constant practice since 1839. During his later years he took great interest in the germ theory, and contributed very materially to researches in that direction.

Dr. Eliphalet Nott, a well-known physician, died at his home in Rexford's Flats, Saratoga County, January 22d, aged sixty-seven years. He was a nephew of the Rev. Dr. Nott, for many years President of Union College.

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CORRESPONDENCE.

OUR LONDON LETTER.

[From Our Special Correspondent.]

LONDON, January 19, 1901.

THE ANTI-TUBERCULOSIS MOVEMENT—FORTHCOMING CONGRESS ON TUBERCULOSIS—ACTIVITY OF THE NATIONAL ASSOCIATION FOR THE PREVENTION OF CONSUMPTION—A CENTURY OF MEDICINE—PROGRESS OF CREMATION IN ENGLAND—DEATHS FROM DRINKING ARSENICAL BEER.

A BRITISH Congress on Tuberculosis will be opened in London on July 22d, 1901. It will be held from Monday, July 22d, to Friday, July 26th. Every British colony and dependency will be invited to send delegates, while the Governments of Europe, Asia, and America are invited to send representative men of science and others, who will be guests of the Congress. Papers will be read and clinical and pathological demonstrations given, detailing medical and sanitary experience in the treatment of tuberculosis throughout the world. A museum will be a special feature of the Congress and contain pathological and bacteriological collections, charts, models, and other exhibits from widespread sources. Authorities in this and other countries will be invited to supply documents on the historical, geographical and statistical aspects of the subject. Practical resolutions will be formulated to indicate the public and private measures best adapted for the suppression of tuberculosis. The work will divided into four sections, as follows: Section I., state and municipal, President, Right Hon. Sir Herbert Maxwell, M. P.; Section II., medical, including climatology and sanatoria, President, Sir R. Douglas Powell, Bart.; Section III., pathology including bacteriology, President, Prof. Sims Woodhead, M.D.; Section IV., veterinary, President, Sir George Brown, C. B. The Secretary of the Committee having charge of the museum is Dr. W. G. Horne, 27 New Cavendish street, Harley Street, London, W., to whom all communications relative to the museum should be addressed.

The National Association for the Prevention of Consumption and Other Forms of Tuberculosis is issuing to corporations, urban and rural councils, boards of guardians, medical officers of health, and other sanitary authorities, suggestions in respect of voluntary notification and of provision for open-air treatment for pauper consumptives. A number of towns have adopted notification. Where the usual notification fees are paid the system appears to have been successful; where they are not, unsatisfactory. The advantages of notification are shown in a tabular form under the headings, "What would be learned" and "What might be done." The latter includes isolation, improvement of insanitary areas and houses, disinfection of consumptives rooms, and the improvement of cowsheds. Useful information as to the present provision for the sanatorium treatment of poor consumptives and the cost of erecting sanatoria, is also given. A number of hospitals now provide open-air treatment for the poor, either free or at a small cost. Boards of guardians are beginning to make provision for the maintenance of beds in existing sanatoria or by adapting special wards in the infirmaries or by erecting their own sanatoria. The main equipments in the construction of sanatoria for pauper consumptives are summarized by the architect of the London Open-Air Sanatorium Association, and the cost of erection and maintenance of existing sanatoria is given.

The beginning of the new century is signalized in the press by a retrospect of the past one and a description of the extraordinary scientific progress which marks it as *the* century of science. In these articles the progress of medical science has received due attention. When the present conditions are compared with those at the beginning of the nineteenth century the contrast is startling. Then sanitation was neglected and the mortality of large towns was tremendous. Owing partly to the "window tax" houses were dark and ill-ventilated. In hospitals gangrene was rife, nursing as now understood was unknown, cleanliness was not thought of and the conditions in many respects tended to foster rather than prevent disease. Vaccination was only in its infancy and the average annual death-rate from smallpox was 3 per 1000. Nearly one-tenth of all the deaths in London were from this disease and the majority of the victims were young. The treatment of the insane was barbarous; they were loaded with chains, beaten, half-starved, and neglected. Ordinary patients, too, suffered much at the hands of the doctors. They were bled and blistered to a most pernicious extent and forced to take large quantities of powerful drugs the action of which was little understood. The nineteenth century has been marked by the displacement in medicine of vague and fantastic theories by a science built on observation. In France the brilliant Bichat, although he died at thirty, founded the science of histology. A few years later Corvisart published a French translation of Auenbrugger's pamphlet on chest diseases, in which was pointed out for the first time the fact that abnormalities beneath the chest-wall could be detected by percussion. Eight years later Laennec invented the stethoscope and inaugurated a new era in clinical medicine. Then came Jenner's discovery of vaccination. The Apothecaries' Act of 1815 had a most beneficial effect upon the education of English medical men. Previously there was no compulsory form of training. In surgery the beginning of the century was made memorable in England by the great names of Cooper, Bell, Colles, and Abernethey. In 1838 the office of register-general was established in England. The government then slowly came to recognize that they had duties in ensuring the health of the public. Clinical medicine was greatly ad-

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vanced by Trousseau in France and Sir William Watson in England who not only made valuable observations, but disseminated their knowledge by brilliant lectures. At this time, too, lived Graves of Dublin, "the prince of clinicians," chiefly remembered by the disease which bears his name, but who desired that his tombstone should bear the inscription "He fed fevers." Three physicians of Guy's Hospital, Hodgkin, Bright, and Addison, the discoverers of the diseases which bear their names, and Bennet, who first observed the characteristics of leucocythemia, made British medicine famous throughout Europe. But the most valuable of all the discoveries of the middle of the century was anesthesia. Before its advent a patient awaited operation as a criminal did execution. In 1846 Wells and Morton discovered the use of ether and in the following year Sir James Simpson, the use of chloroform. The germ-theory of disease established by the immortal researches of Pasteur and its invaluable fruit, the antiseptic system of Lister, are too recent to require comment.

Cremation is becoming more popular in England and has at last been established on a commercial basis. The Cremation Society of England commenced operations at Wolsing in 1885, when only three bodies were incinerated. Since then the number has gradually increased. In 1894 the number was 101; in 1899, 240; and in 1900, 301. Of course these numbers are very small when the population is taken into account. But it must be remembered that the only crematorium available is inconvenient and expensive. The cost has been greatly reduced in the last ten years, but is still too high. A fresh chapter in the history of the movement has now been started. The London Cremation Society has been started which believes that cremation may be profitably placed on a commercial basis. A freehold site has been purchased at Hendon just outside the boundary of London. Two or three crematoria at first will be erected, on the newest and most approved principles, with a chapel, waiting-rooms, attendants' lodges, and provision for the erection of private as well as public buildings for the reception of cinerary urns. At Hull the first municipal crematorium in England has been erected at a cost of £2,500.

Four more deaths from poisoning by arsenical beer have been reported to the Manchester coroner. All occurred at the workhouse hospital. Ten more summonses were issued against publicans for having sold contaminated beer after the issue of a warning. Another fatal case occurred near Spalding, the victim being a young laborer. Inquests have been held at Salford (near Manchester) upon the bodies of two women whose deaths it was alleged were accelerated by arsenic poisoning. The medical evidence showed that they had suffered from pains in the hands and feet and pigmentation of the skin. In one case the verdict was, "Death from bronchitis, but hastened by alcoholic neuritis;" in the other, "death from arsenical poisoning." Since the discovery of arsenical poisoning from beer-drinking, the Manchester coroner has held twenty-one inquests. In eight cases death was found to be due to arsenical poisoning, in seven to natural causes, but with symptoms of arsenical intoxication, and in two death was accelerated by arsenical poisoning.

SOCIETY PROCEEDINGS

MEDICAL SOCIETY OF THE STATE OF NEW YORK.

The Ninety-fifth Annual Meeting, Held at Albany, January 29th, 30th and 31st, 1901.

FIRST DAY—JANUARY 29TH.

MORNING SESSION.

Inaugural Address.—The President of the Society, Dr. A. M. Phelps of New York, opened the meeting with his inaugural address and made among other recommendations these as of special importance. In view of the large amount of work falling to the Chairman of the Legislative Committee, who, on account of the intimate relation between the activities of the two offices, should also be the Assistant Secretary of the Society, he thought an annual salary of $500 should be voted. Without some such reasonable stipend it is almost impossible to find the right man for the place, able and willing to give his energy and time gratis. The old method of making members of the Society answered well when the organization had the granting and revoking of licenses within its power. Now that such functions are properly vested in the Board of Regents, other considerations make an enlarged membership desirable; for instance, the division of the body into sections for research. Instead of there being one delegate for a three-year term from each assembly district, at the end of such term eligible for membership, let there be two delegates for a one-year term each. In this way during the next three years a large increase of members will occur and then sections can be recognized. The Society should have 3000 members in this State which shows one-eighth of the total number of physicians of the State.

The wisdom of holding the annual meeting during the January deliberations of the Legislature is manifest, so as to impress the opinions of the Society upon that body. It would be very wise in the name of more purely scientific and social relations to have a second meeting each year to be held in turn in the cities of the first class. The Society possesses no office as such of assistant secretary, but by change in the Constitution and By-Laws this should be created. Such incumbent should collaborate with the Secretary and for convenience be the Chairman

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of the Legislative Committee, as explained at the opening of this address. There is a bill before the Legislature now introduced by Senator Grady of New York, providing that all suits for hospital malpractice shall be against the medical attendant and not against the institution. The manifest unfairness of this in the face of facts, so well known about the relations of medical appointees to their hospitals as not to need mention, make it necessary for every medical factor in the State, individual and organized, to enlist himself strongly to defeat the measure. The union of the medical profession in the Pacific and Mississippi Valley States into their respective societies emphasizes the lack of a corresponding society in the Atlantic States, although 60 per cent. of all the American physicians dwell within them. Action should at once be taken by appointing a committee to open negotiations and, if possible, perfect arrangements. The wise legislation corrective of the notorious tenement abuses should be furthered by the Society in every possible way. Fitting tribute should be paid by the Society to the deceased honorary members, J. M. Da Costa, A. Stillé and S. F. Purple, and the deceased permanent members, W. M. Smith (long-time secretary), L. C. Gray, H. D. Noyes, and H. T. Hanks.

Executive Session. — Drs. Ely (Rochester) Vanderveer (Albany) and Van Fleet (New York) were appointed a committee to act on the recommendations of the President. Drs. Roosa (New York) McDonald (Albany) and Rowe (Rochester) were named as commission for nominating members for vacancies in the Board of State Examiners. The report of the Committee on Publication was adopted. It recommended the publication of the Transactions of the Society at $1.00 per volume, as last year, in order to put it further within the means of every practitioner. The recommendation of the Committee on Ethics was to admit to representation in the Society the following local bodies: Gloversville and Johnstown Medical Society, Medical Society of Long Island, German Medical Society of Brooklyn, and the West End Medical Society of New York. The Committee on Hygiene reported the law providing the establishment of a State sanatorium for consumptives and recommended the passage of laws for better housing of the poor; for the making of gonorrhea and syphilis amenable to the boards of health like all communicable diseases, subject to notice and registration; and for the better prevention of typhoid fever by improved water supply. A motion was carried making official the interest of the Society in the tenement-house reform. As Auditing Committee Dr. Bulkley (New York) Dr. Brush (Mt. Vernon) Dr. Elsner (Syracuse) were appointed, and their report was adopted in the afternoon. The Committee on Legislation recommended the appointment of a designated lawyer who shall by study familiarize himself with the medical laws and be in position to advise the Society better than any general lawyer not so specializing; also the support of the present bills before the Legislature, especially that defining the practice of medicine in this State. Its report was accepted. *Resolved,* That a special committee be appointed to appear before the Committee on Public Health of the Legislature in charge of this bill. Dr. Elsner of Syracuse was made chairman of this Committee with power to appoint his own associates.

Dr. C. A. L. Reed, President of the American Medical Association, was here welcomed and presented by the President of the Society. In his reply he dwelt on the advantages of unity and solidarity of the profession and mutual understanding on disputed questions. He praised the democracy of the New York State Society and advised further extension of it because the *strong* benefit the Society and the weak practitioners are benefited *by* the Society.

The Prize Committee made the award to Dr. Lucien Howe of Buffalo for his essay on "The Measurement of the Interlocular Base Line and the Size of the Meter Angle." The Committee on the State Board of Medical Examiners made points of interstate reciprocity for licenses, of the superiority of the New York State Medical school graduates and the general good results of the license law since its enactment. On motion of Dr. Elsner of Syracuse a resolution was adopted committing the Society to combat the present effort of the Legislature to cut down estimates for the State care of the insane.

The following gentlemen were elected by districts to the nominating committee: Drs. A. Van der Veer, Albany, Chairman; 1st District, A. E. Davis, New York City; 2d District, W. H. Zabriskie, Glen Cove; 3d District, W. G. Tucker, Albany; 4th District, R. J. Wilding, Albany; 5th District, Nathan Jacobson, Syracuse; 6th District, L. Coville, Ithaca; 7th District, W. J. Herriman, Rochester; 8th District, H. R. Hotchkiss, Buffalo.

TUESDAY—AFTERNOON SESSION.

Pneumonia Therapeusis.—Recent progress in the treatment of acute lobar pneumonia was the topic discussed by Dr. J. K. Crook of New York. He stated that considerable activity in this field has been shown and about fifty contributions to the subject have appeared in literature during 1900. It is apparent, however, that no striking innovation and no great advance have been made in the recently-proposed plans of treatment. The fifty contributors are at variance as to many minor, but are unanimous as to the fundamental principles of treatment. This consensus can be summed up in three admonitions: (1) Put the patient into bed in as comfortable and well-ventilated a room as possible; (2) give him nutritious and digestible food in moderate, not overabundant quantity; (3) watch him carefully. There are no other routine measures applicable to all cases without exception. No patient should be

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obstetrical paralysis, dislocation or fracture. Non-development has been assigned as a cause, but in six autopsies by Stone was not present. The differential diagnosis is all-important and quite simple. Careful examination will show the head of the humerus in place, then the condition must be paralysis. If the head is out there is dislocation. If all the bones are manifestly small, there is arrest of development. The symptoms are those of any subcoracoid or subspinous displacement, upper arm flexed, abducted, rotated inward, elbow flexed, forearm fully pronated, wrist and fingers flexed. The treatment is, if possible, non-operative reduction and its maintenance. If the deformity recurs persistently, then the open operation must be done. The conclusions are as follows: (1) Differentiate at the outset between dislocation and obstetrical paralysis. (2) Adopt treatment early, first reduction, then operation, if the former fails. (3) Every infant at birth should be examined for trouble in the bones, joints or nerves. (4) From the fact that fracture of the glenoid cavity was present in three of Phelps' cases and that the history of difficult labor is always present, it is likely that obstetrical paralysis proceeds from the same source and is not itself a cause of the displacement. Arrest of development is also in the same relation to this condition and is not to be assumed as present unless the whole shoulder girdle is also affected. (5) The prognosis of early operation is most excellent. (6) As in congenital hip, so in congenital shoulder dislocation, orthopedic apparatus is of very little value. An excavator, devised by Dijou, was shown and recommended as most serviceable for deepening and smoothing the cavity and edges of the glenoid cavity at the time of operation.

Appendicitis and Diseases of the Uterine Appendages.—Dr. Albert L. Beahan of Canandaigua said that the occurrence of right-side pelvic disease in which the question arises as to the diagnosis between disease of appendix and appendages is frequent and sometimes requires fine distinction. Gross changes in the appendages resulting from disease coexisting with appendicitis are not uncommon. There has not been shown to be any close relation, except of proximity. Functional disease, with disturbance of menses, a dysmenorrhea, exists as a law of cause and effect. Four patients in hospital at the same time recently, unmarried women from seventeen to twenty-three years of age, had had irregular, painful menses. In one of these cases in which an anomaly existed of the appendix passing for a short distance between the coats of the intestine, making a tight stricture, the menstruation had always been painful, and recently a local peritonitis had occurred at the menstrual epoch. Our case-records, other than these four, show that these are not coincidences. A locked or torpid colon, with gas accumulations, an exaggeration of menstrual phenomena, increased pallor, or muddy complexion, languor, pains, nausea or vomiting, pronounced nervous irritability, peevishness, with febrile rise to 99.2° or 100.2° F., especially a single dose of medicine simply because he has pneumonia. Watch for and follow the indications. Recent observers are not a unit as to the best procedure for meeting the needs of the patient, but agree that a careful practitioner can easily outline a course suitable for each case. There is at the present time a distinct tendency to revert to the once time-honored and lately almost entirely-abandoned treatment by bloodletting. All writers admit that the reaction against this measure had gone too far and that a discriminating employment of it is now fitting, because no known procedure will so quickly and fully relieve an overcharged and staggering heart as the withdrawal of a few ounces of blood. The use of cold applications, as by ice-bags and sponge-baths, is now almost universal, and no measure of comfort is recognized as safer in employment and happier in its grateful effects. Arterial sedatives are losing in favor with some and gaining with other trusted teachers. The use of opiates is recommended by some and decried by others. The mean seems to be careful observation for direct indications, such as obstinate insomnia, active nervous disturbance and actual delirium, and then rational fearless administration. Alcohol in drunkards and seniles is good routine treatment, but in the robust should be used only when the pulse is weakened or accelerated. Few such patients with a pulse of 110 require alcohol. Among cardiac stimulants digitalis is less and less in favor, caffeine is much more popular than formerly and strychnine is probably the best for all-round work. The use of drugs supposed to be specific against the pneumococcus has gained little or no endorsement during 1900. Several reports of their successful exhibition have been made, but have really done little to advance the method. The antipneumotoxin plan has had few supporters among the Germans and French this year, but rather many in our own country and some very instructive data collected as to encouraging use both of pneumococcus cultures and of animal serum. Medicine is still face to face with the inability of the experimenters to elaborate an antitoxin of reliable, uniform and stable constitution. Until this obstacle is removed this department of the therapeusis of pneumonia must remain unorganized.

Dr. Bridges of Ogdensburg in discussing said that not all pneumonias are due to the coccus; the disease is often infectious and epidemic. The treatment is solely good nursing, fresh air, opiates, strychnine and alcohol.

Congenital Dislocation of the Shoulder.—Dr. D. W. Marston of New York said that this condition appears to have escaped minute observation up to the present. In literature Phelps since April, 1895, reports 4 cases, Eve since August, 1895, 1, Küster 1 (fatal) Stimpson, Post, Schedé and Stone 1 each. Gaillard had 1 and Phelps 2 cases curable by non-operative reduction. The causes are (1) trauma before or during delivery, (2) prenatal disease, as tuberculosis, osteomyelitis, etc., *in utero*. Difficult delivery may cause either

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cially during the latter part of the day, if a tender, enlarged appendix is found, establishes the diagnosis. A recurrence of this group of symptoms at one or more succeeding menstruations may be expected. A hovering of the temperature about the 99.2° F. mark has come to be the clinching test. The tolerance of the female pelvis to disease should not mask the diagnosis, nor should a serious attack of appendicitis be permitted. Remove the appendix early. It will be a surprise to see its condition and a gratification that it was done.

Small Hospitals and Their Administration.—Dr. L. N. Lanehart of Hempstead pleaded for the existence and administration of the small hospital in the small community the following points: Their justification lies in the need of every town for an institution to care humanely and properly for the sick poor and incidentally for such as in virtue of the character of their malady need hospital surroundings. The benefits arising from such is proportionately as great as in large cities. As to the organization, the hospital should be incorporated so as to receive gifts and bequests and hold land. In this State it should enjoy the approval of the State Board of Charities. The board of managers should be relatively large for the more even distribution of work, conveniently thirty, divided into groups of ten each, serving respectively one, two and three years and thereafter elected for three years. Thus the greatest permanency is acquired for it. When practicable business-men and the members of the medical staff should be members, together with the women of the community. The president should be tactful and sensible. Women are best for house, wardrobe, visiting and training-school committee work. The chairman of each should have a place on the executive committee, the other members of which should be the titled officers of the association and the chairman of the medical staff. If such are all men the executive committee will be well balanced. The matron should be a graduate nurse, of good character and given absolute authority in her sphere. Complaints for the sake of the institution should always be handed to the executive committee for decision. The medical board shall be made up of physicians, surgeons, a pathologist, neurologist, ophthalmologist, aurist and laryngologist. These specialists may be rapidly developed, if necessary, or secured as consultants. To the staff the hospital offers the great advantages of association and to the community those of an educator in hygiene and broad medical knowledge. The support of the hospital is a difficult problem and may be in part solved by laws providing that the superintendent or overseer of the county poor shall be empowered to send to the hospital at the public expense all cases needing treatment in an institution.

Application of Vasodilators.—Dr. L. F. Bishop, of New York, made the subject of his paper the necessity of greater conservatism in the use of vasodilators in certain cardiovascular disease. The primary necessity here is as always to treat the patient, not the disease, namely, to estimate and combat the pathological conditions exhibited by him as a special case. The amount of the drug and the time and method of its application depend upon such knowledge. In cardiovascular disease it must be remembered that the heart is merely a muscular dilatation of the vascular tube and shares at the same time the kind and degree of the arterial disease. Tension in the arteries is due to some interruption in the muscular balance in the channels due to parietal, hemic or nervous causes. To restore this balance as rationally and fully as possible is the function of the drug. Hence we must determine always how much, how often and how long shall the drug influence be sought. Again while carrying on this proper medication the hygiene of all treatment must be minutely observed, namely, in a proper proportion of bodily rest and work, in proper food dependent upon the character of the disease fundamental to the cardiovascular lesions, as, for example, nephritis and rheumatism, and, finally, in proper rational living in all relations. Having decided these points care must be exercised to use only the most reliable preparations. In conclusion we must remember that there is absolutely no specific in cardiovascular disease and that our sole object is to compensate for errors in the circulation, and having secured that to maintain it carefully. Successfully done this is all that can be hoped for, on account of the intrinsic pathology of these diseases.

What is Rodent Ulcer?—Dr. J. A. Fordyce of New York read a paper with this title and showed a number of photographs illustrating the clinical as well as the histological features of this affection. He referred to the differential diagnosis of late syphilitic ulceration of the skin, lupus vulgaris (tuberculosis cutis), and the disease in question. He stated that mistakes in diagnosis not infrequently came under his observation. These mistakes in diagnosis are more frequently made in the late stages of this type of cutaneous cancer when it sometimes loses its pearly-gray, ridge-like margin and only appears as a more or less extensive ulcer. The age at which it begins also leads to mistaken ideas as to its nature, for although in the majority of cases it makes its first appearance near the age of forty, it not infrequently begins much earlier in life. The writer has seen it begin about the age of twenty and Hutchinson has reported a case which appeared when the patient was fourteen. Rodent ulcer differs from other types of cutaneous cancer in its apparently insignificant early stage, its excessively slow course and in the absence of little new growth. The ulceration keeps pace with or exceeds the newly formed tissue and thus justifies the clinical name with which it has so long been identified. While possessing little power to infect the general economy, rodent ulcer, when well established, shows a remarkable tendency to recur after removal whether the interference be by surgical or the so-called dermatological methods. That the lymph-nodes are not always spared was shown by a case which the writer had observed in which the lymph-node over the mastoid had been infected by a rodent ulcer behind the ear. The

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patient was also afflicted with a rodent ulcer in the typical location, *i. e.*, on the side of the nose extending to the inner canthus.

Rectocolonic Enteroliths and Concretions.—Dr. S. J. Gant of New York said the occurrence of these objects is most common in female adults and in the rectum, although any part of the gut may be their host. Their composition is usually that of true enterolith, hair-ball, gall-stone, urinary pancreatic and prostatic calculi and such miscellaneous material as fruit-seeds, etc. Hair and wood-fiber have both been found in the human, the latter proceeding from toothpick chewing. Stones made of oat and potato-peel fiber are common among the Scotch poor. Gall-stones are very common indeed, and more than any other type of these concretions. The true enterolith (not gall-stones) are found especially in females, single or multiple, weighing from grains to ounces, oftenest in the rectum, colon and small intestine in the named order. Their chemistry is phosphate of lime and magnesia, ammonia and organic matter. Pancreatic concretions are small and brittle and enter by ulceration from the pancreatic ducts. Urinary calculi commonly appear from the ureters into the rectum by erosion. Impacted feces are familiar to all. Prostatic calculi simulate the urinary in route and symptoms. Masses of fruit seeds occur chiefly in the summer when fruit is eaten and usually in children, particularly in the bowels. The symptoms agree with the site of arrest, the number and size of the stones, the duration of their presence, and the lesions of the intestines actually caused by the stones. In brief they are those of intestinal irritation or obstruction depending in degree and results upon circumstances. The treatment is removal by means indicated by the factors present and preventive medication.

Esophoria or Latent Squint.—This was the subject of a paper by Dr. F. Valk of New York. The writer does not believe in the old theory of Donders that hypermetropia is the cause of convergent, nor that myopia is the cause of divergent squint, as there are so many cases that will disprove this theory; nor does he accept the innervation theory of Hansen Grut, but does base his opinions on the so-called muscular theory, associated with the fusion force of the eye. He believes in the power of the straight muscles of the eyes, as shown by their insertion, size and weight, in which one muscle must show a certain power to act under the stimulation of the fusion force and that this power should bear a certain relation or ratio to the action of the other muscles. This power is shown by the prism test, an old and reliable one, and in the writer's opinion, the only one that can be depended upon to indicate properly the true balance of power in these muscles or the want of power, as an unbalance and the probable muscles that are at fault while all other tests can only be used or depended upon simply as confirmatory of this one. That in the relation of these muscles, one to the other, he excepts the abduction, as compared to adduction, as one to three or four and that outside of these limits there may be latent squints. He accepts this ratio as standard. That after testing the muscles by this method one frequently finds homonymous diplopia with the red glass before one eye, a condition indicating the advisability of an operation.

The writer then gives short histories of sixteen cases showing latent convergent squint by the prism test, operated upon with success. The operation consists of a shortening of the external rectus by a "tuck" with a catgut suture, which is inserted while the muscle is held by the twin strabismus hooks, devised by himself. The catgut is allowed to be absorbed and the reaction, if any, is very slight.

Dr. L. Howe of Buffalo said that the estimate of the relation between the muscles must not be too definitely and fixedly adjudged. Otherwise there is danger in making operation the chief cure of such conditions as esophoria which are within reach of other means.

Demonstration of Ophthalmophakometer.—The following technical points were elucidated by Dr. L. Howe of Buffalo on this topic. The first object of this communication was to illustrate the working of Tscherning's opthalmophakometer, no similar instrument having been used before in America for viewing the entoptic images. A brief description accompanied the instrument and was in general the same as that given by its originator in his book on "Physiological Optics" translated into English by Weiland. The second part of the communication related to a simple formula by which it was possible to calculate rapidly and exactly the depth of the anterior chamber; the center of curvature of the anterior surface of the crystalline lense; the center of curvature of the posterior surface of the crystalline lense; the distance of this center of curvature from the posterior surface of the cornea. The third point in the paper was to describe a modification of the phakometer made by the writer. This consists in a change in the telescope by which the former inverted image is changed to an erect image, the magnification being the same or slightly greater. By this means, with a proper arrangement of the light, it is much easier to recognize and study the movement of the entoptic images.

Syphilitic Interstitial Keratitis.—Can interstitial keratitis be prevented in the offspring of syphilitic parents? This was the question propounded and answered in the following terms by Dr. P. A. Callan of New York. It is a fair assumption that syphilis is responsible for the majority of cases of this disease, rarely in its acquired forms, but rather commonly in its inherited manifestations. It usually appears in the latter type during the growing period and has been seen by the writer as early as the fourth and as late as the twenty-eighth year. The offspring of syphilitics who survive the fifth year present few or no marks of the inherited taint. The typical face, that of premature age, is rarely seen. Hutchinsonian teeth are more frequently met, but not such as the textbooks describe. Their really distinguishing mark is the peg-like incisors, the small notched ones are very uncommon. Ordinarily there is nothing about

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such children to indicate their hereditary taint prior to the affection of the eyes. The inflammation affects both eyes with an interval of about a month, however, in some cases this may be a period of years. Treatment may prolong this interval, but in the writer's experience sooner or later the second eye suffers. He tried in one young female to prevent the development of the keratitis. She had unmistakable symptoms of inherited syphilis, face and teeth both typical. For ten years he had her under observation and more or less regular treatment, and for one year under full tonic and antisyphilitic medication. Nevertheless, at the end of that time she developed a keratitis interstitialis of one eye and after a short interval of its fellow also. One member of a family of children may escape while all others suffer, and conversely one may be attacked and the balance be spared by this disease. There seems to be at present nothing to account for this peculiar discrimination. In conclusion, there is nothing to show syphilitic taint inherited from diseased parents *in the majority of such children as survive the fifth year.* Only a small percentage of such children ever develop this affection of the eyes. In the writer's experience it is impossible to prevent its appearance, at least in a certain number of cases. When one eye is attacked the other sooner or later suffers also.

Menstruation and the Skin.—Dr. L. K. Bulkley of New York considered the relations between certain diseases of the skin and the menstrual function. He said that during menstruation the woman passes through a most active psychical crisis which lasts ten days, beginning slowly, rising to an acme and decreasing to normal conditions also slowly. During this third part of each month her temperature rises, her total excretion of urea is changed, arterial tone is raised, digestion, nerve-function, with other systemic activities, are modified profoundly though temporarily. In many a species of auto-intoxication is present and the reflex and sympathetic nervous phenomena are manifest. At puberty and at the menopause for obvious reasons all or most of these disturbances are much increased, often to an almost pathologic degree. As to the skin he said that through seven years of recorded experience he has noted the influence of menstruation upon it, both in the absence and presence of functional and organic utero-ovarian disease. Forty-two are the total of these cases involving twelve diseases. Such effects are familiar to all at puberty. Acne makes up one-third of all these skin signs, especially on the chin, where it is almost pathognomonic. Eczema is the next best example, and in it exacerbations of chronic forms and even modifications of acute forms occurs at the epoch. In this disease the hands are the seat for most of these peculiar signs. To signify the relation of the skin to puberty he stated that eczema in females is twice as common as in males between the ages of fifteen and twenty years.

In the discussion Dr. Jacobi of New York said that he had in his forty or fifty years of professional life noted several distinct examples of vicarious menstruation present during amenorrhea, from the nose as distinct epistaxis, from varicose ulcers as obstinate oozing and one case from the ear which recurred monthly for nearly a year. He asked for Dr. Bulkley's observations on such cases. Dr. Boldt of New York asked the author for a theory of the cause of such vicarious activity. Dr. Bulkley said in reply that while he had often seen it he could offer no explanation.

Treatment of Chronic Otitis Media.—This was the subject of a paper by Dr. J. F. McKernon of New York. This paper will appear in full in the MEDICAL NEWS.

Hysterical Anesthesia and Analgesia.—Dr. B. C. Loveland of Syracuse reported a case of hysteria in which anesthesia is a prominent symptom, both from the extent and peculiarity of its distribution, and added some considerations in regard to anesthesia as a diagnostic sign. His case presented a complete anesthesia, involving tactile, pain, thermic and location sense, and the areas affected were as follows: Both legs and feet, the upper limit being the groin in front and the gluteal fold behind; both arms, hands and shoulders, the limit above being the collar-bone, and below a line just above the nipples in front, and the lower angle of the scapulæ behind. The patient also showed hyperesthesia over the lower half of the abdomen, and hysterogenic zones below her shoulder-blades on the back. Beside these symptoms there were several other characteristic stigmata of the disorder. He does not describe treatment at length, but used electricity, massage and mental suggestion, with isolation from the family, as important factors in his method. He concludes that anesthesia does not rank with globus or hyperesthesia in frequency, but when found is of marked diagnostic importance and should not be overlooked; that it usually follows a pronounced hysterical crisis and is seldom found in the milder cases; that it does not follow the distribution of any nerve or group of nerves. He then describes the various typical forms, and shows the case reported to be somewhat atypical. The writer also noted the frequent accompaniment of ischemia and the infrequent presence of paralysis in connection with this variety of anesthesia, and that anesthesia, more or less complete, is more frequently met with in cases of hysterical paralysis. When this occurs it conforms to the paralyzed member, contrary to that in organic paralysis of central origin.

Correction of Deformities Following Pott's Fracture.—Dr. W. O. Plimpton said that braces and other forms of support that have been devised for deformities following Pott's fracture are unsatisfactory in application, awkward to wear, and in no wise curative. Operative treatment offers the only means for permanent relief. The degree of dislocation, whether partial or complete, together with the exact relative position of the bones, determines the extent and nature of the operative measure necessary to overcome the deformity. Recent conditions are more easily corrected than late ones, in which fibrous tissue and

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muscle have undergone change. In the early malpositions a reproduction of the original fractures by dividing the bones at the site of injury will usually suffice to restore the foot to a normal position. Cases of longer standing, that have undergone change of soft parts of bony surfaces, must be dealt with as the conditions require to overcome deformity. No single operation will suffice for these cases. Do what is necessary, resect bones and cut soft parts to restore the foot to the perpendicular axis of the leg. Place the astragalus squarely on the horizontal plane of the tibia. Restore the mortise of the joint as perfectly as possible. Operations outside the joint like cuneiform or linear osteotomy, do not reduce the dislocations, but simply produce a new deformity to help out another by averaging the deflection of the foot from the axis of the leg with the line of the new position, and are therefore not to be recommended. If resection becomes necessary, confine it to one side of the joint, if possible. By saving the cartilage opposite the cut surface of bone, ankylosis may be avoided. The X-ray will assist by showing the operator what he will have to deal with and aid him in formulating a plan of procedure. Suit the operation to the case at hand for the restoration of the foot to the normal axis of the leg.

Deep Breathing.—Upon the subject of deep voluntary breathing as a curative and preventive measure Dr. J. H. Pryor of Buffalo established the following points: Its importance can not be overestimated, because in modern civilization few of us after childhood breathe deeply. Yet this full lung function means, first, all the proper oxygenation of the blood and its therapeusis is in brief the same as oxygen in the system. At any time of life and for either sex better lung action would be undoubtedly of great value; and in disorders of the blood in which purification and added tone are required it will on trial be found a great adjuvant of other rational therapeutic means. Among such conditions are to be mentioned chlorosis, anemia, and the depreciated states after severe illnesses. When the lungs intrinsically show deficient action, as in the muscularly feeble, or when after disease, especially the various forms of pleurisy, pneumonia and bronchitis, their sequelæ and complications, they are found imperfect in function, it is exceedingly probable that most or entirely all of the difficulty can be eradicated or compensated for by training in forced voluntary respiration several times each day. In children very likely the deformities of the chest incident upon rickets and similar disease could be in part neutralized by proper breathing gymnastics. In the subacute forms of bronchitis and pneumonia we have the air-vesicles glued together with exudate. By opening these, absorption and even discharge of the exudate by expectoration will be initiated and stimulated. In some of the old semi-consolidations of pneumonia a like process obtains, added to the advantage of general stimulation by this process. It is closely analogous to the similar results of massage of joints. This might be called lung massage. Cough is not a contra-indication, in fact has the advantages of expelling exudate. For the inhalation various soothing remedies can be added to the air. The patient should repeat this exercise several times daily.

Dr. J. Riddle Goffe of New York City stated that he had seen great success follow this plan among chlorotic girls. Dr. Styles added that morning exercise and hill-climbing in the erect position are beneficial. Dr. Hopkins of Buffalo recommends horseback-riding as compelling deep respiration. Dr. Goodwillie of New York said that normal alimentation and respiration determine health. Deep breathing is a kind of massage to all the viscera. Dr. Potter of Rochester finds cycling valuable. Trapeze exercise also increases chest diameters and function, also overhead respiratory work.

Indications for Mastoid Operation.—Dr. W. C. Phillips of New York referred to the fact that in selecting the time for operation in mastoid diseases the judgment is frequently severely tested. Opinions vary from operating at the time of invasion of the mastoid to a delay which may lead to extensive complications. There really must be a period in every case when operation should no longer be delayed and his object was to outline those symptoms which point to the desirability of operative interference. All operators cannot absolutely agree with any single opinion. He discussed the indications for operating upon the mastoid in acute cases and emphasized the fact that just at this time mastoid disease is prevalent, secondary to the grip. Whenever mastoid complications are attended by the presence of streptococci, staphylcocci or pneumococci in the pus, the danger of rapid extension of the disease is imminent. In all mastoid cases a microscopical examination of the pus should be resorted to. He described acute mastoid suppuration as an involvement of the bone appearing during the course of acute suppuration of the middle ear. The symptoms are pain, fulness over the entire parietal region and tenderness, especially over the antrum and tip. Temperature should always be considered, but is not an all-important symptom. External periostitis, with or without infiltration of the soft tissues, is a later development. Bulging in the atticus tympanicus and the superior wall of the external canal is generally present. Suppuration of the mastoid should be considered as a complication of suppuration of the middle ear, but further complications were occasionally found, as extension into the surrounding tissues, especially the lateral sinus or some portion of the cerebral cavity. Local bloodletting, real or artificial leeches, ice-coils, hot poultices, and hot-water irrigation are preventive methods. Ice-coils should not be used longer than twenty-four to thirty-six hours. The mastoid operations should be performed in acute suppuration when no permanent remission of symptoms has followed free drainage through the drum or the application of ice-coils, poultices or free local bloodletting. Then

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there should be absolutely no delay. It is at this very point that many otologists wavered. The exact time for operating may not be measured by days or hours. In grip cases the destructive process is so rapid that one frequently needs to operate soon after the invasion. He mentioned a recent case of a child, eight years of age, in which he had found it necessary to operate three days after the first mastoid symptoms and found pus, not only in the antrum, but also in the tip. In chronic cases, after all other treatment has failed, it frequently becomes necessary to operate in order to overcome the discharge. Life insurance companies will not accept as risks those who suffered from chronic discharge of the ear.

Belladonna versus Scopolia.—Dr. R. W. Wilcox of New York read this paper. This will appear in full in the MEDICAL NEWS.

Indications and Limitations of the Vaginal Operation in Pelvic Diseases in Women.—Dr. J. Riddle Goffe of New York took the position that any operation that can be done as safely and satisfactorily for the patient *per vaginam* as by the abdomen should be done by that method. The dangers are incomparably less, the convalescence is smooth and the after-treatment simple, the patient being relieved of stitches, adhesive plaster, abdominal binder and dressings. There is no visible scar to continually remind the patient of her experiences, and, above all, there is no danger of hernia. Practically, vaginal hernia or enterocele is an unknown sequela of vaginal section, while cases of ventral hernia following abdominal section, even for the relief of the simplest forms of pelvic disease, are constantly presenting themselves. Personal experience and the careful study of the experience of other operators, both in gynecologic and general surgery, have led the author to the conclusion that the only justifiable radical operation for cancer of the uterus is vaginal hysterectomy. The radical operation through the abdominal incision, which consists in ligating the large blood-vessels of the pelvis and rimming out all of the cellular tissue and lymphatics, with the hope of heading off the invasion before it shall have involved the general system, is an *ignis fatuus* that will shorten the lives of many women and lure the operators on to greater destruction. Examination of the statistics of these operators reveals the fact that the patients thus operated upon (provided they survived the immediate operation) are either all dead, or about to die, or sufficient time has not elapsed since the operation to indicate what the results may be. In the treatment of fibroid tumors the author advocates the vaginal route of attack for either myomectomy or hysterectomy whenever the neoplasm, whether single or multiple, is confined to the true pelvis. In those in which the tumor is sufficiently large to rise out of the pelvis the abdominal operation is preferred. Several cases were reported to illustrate these points. In salpingitis and ovarian abscess, whether single or double, the vaginal method is advocated, and also in displacements of the uterus, in the treatment of which condition, whether complicated or simple, the author considers the shortening of the round ligaments *per vaginam* as the most ideal treatment that had yet been suggested.

In the discussion Dr. Boldt of New York said that the operations for cancer of the uterus should not be confined to the vaginal route, because infection by direct contact with the neoplasm-cells is not yet proved. In interstitial myoma the abdominal route is better for space, and in tubal disease is more rational to avoid complications. Dr. Scully of Rome said that post-operative abdominal hernia can be prevented by care. Dr. Cordier of Kansas City said that complications, accidents and associated lesions can be best treated by the abdominal route.

Disinfection in Diphtheria. — Dr. M. A. Veeder of Lyons discussed disinfection within and without the body in this disease. There are three similar and easily-confused diseases, namely, diphtheroid, true diphtheria, and septicemic sore throat. The first is caused by staphylococci, the second by bacillus diphtheriæ (Klebs-Loeffler) and the third by streptococci. These may be separate. associate or consequent diseases, the graver following the milder forms. The septicemic sore throat is most deadly as a rule, although true diphtheria may be virulent and fatal. Both should be treated by local germicides, isolation of patient, thorough disinfection of articles in contact with the patient, and destruction of all nose, mouth and throat excreta and any other possible source of spread of the disease. Diphtheroid is itself not often a serious or troublesome malady, but becomes important because of its clinical relation to true diphtheria, namely, as precursor. True diphtheria can be carried by the practitioner to himself and to other members of the family and community by too frequent and improperly conducted examinations and by too little personal care after such of his hands, face and clothing. The cough of patients is capable of sending many bacteria the distance of yards into the room. Hence such cough should be turned away from others. The throats of all attendants and members of the same household should be regularly examined to determine whether they be infected, although the individuals are not yet clinically ill. An adequate protection, in his experience, is for the doctor to place a moist mask of gauze over the whole face while making his examination. The mask should each time be burned. A bichloride-of-mercury wash for hands and face should next be used.

After-Thoughts on Diphtheria.—The dread of this disease by patients early enlisted his interest, said Dr. I. N. Love of New York, and the changes of attitude toward it have been noted for fifteen years by him. The discovery of the real cause of the malady by bacteriology was the first great change, followed soon by the development of the antitoxin theory. This antitoxin method of treatment will probably be found, as the years pass, more or less available in a large number of diseases, as, for example, pneumonia, typhoid, tetanus and smallpox, and perhaps ultimately to

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all infectious diseases. But credit to it must not overshadow what is due to other improved methods of treatment in hygiene, antisepsis, nourishment and stimulation. It is wise to regard every sore throat as the possible ground upon which a diphtheria may grow and hence to treat them all with this point in mind, by local antiseptics and germicides. The benzoate of soda and bichloride of mercury are invaluable in this connection. Healthy mouths may contain the bacillus, and before the discoveries of bacteriology simple inflammation of the throat went under their right names, which have all become *diphtheria* if the organism be present. Deaths by antitoxin, through impurities or even inexplicable cause, are known, hence its use should be guarded. Best try in addition or even in preference full isolation, thorough disinfection, sensible hygiene and local applications.

Persistent Suprapubic Vesical Fistula.—The treatment of this condition by the Bottini operation occupied the attention of Dr. Willie Meyer of New York through an interesting case which he reported. Three such operations were done, the last by himself, on this patient and permanent cure resulted. The possibilities of this method, when persistence of the fistula depends on prostatic obstruction, are at once apparent.

Fatty Degeneration of the Heart.—Dr. T. E. Satterthwaite of New York read a paper on this subject. (See page 165.)

The Porro-Cesarean Operation.—Dr. J. H. Glass of Utica presented the following as the indications for this operation: (1) Sepsis, actual or suspected after protracted labor or faulty technic of the attendant; (2) cancer of the cervix or lower uterine zone; (3) myomata of the body in selected cases; (4) atresia vaginæ if otherwise no remediable; (5) tumors of the ovary; (6) hemorrhage not otherwise controllable; (7) an insurmountable cause of maternal dystocia.

Recent Experiences With Erythromelalgia.—Dr. H. L. Elsner of Syracuse read this paper. It will appear in full in a subsequent issue of the MEDICAL NEWS.

Results Following the Cure of Chronic Defects of the Vesical Function.—This paper was read by Dr. Eugene Fuller of New York, who said that while a normal bladder empties itself completely at each urinary act, there were numerous factors which served to cripple that function and such, if long established, produce pathological changes in the urinary tract. His article was to illustrate the fact that when such factors are removed the tendency is strongly toward repair. Among these factors are stricture, chronic contraction about the vesical neck, prostatic hypertrophy, calculi and tumors. The direct causes for these conditions were vesical tenesmus, stagnation of urine and urinary infection. Vesical tenesmus long continued against a slowly-increasing obstruction causes hypertrophy of the bladder-wall, even to somewhat over half an inch. Such bladders are of firm and unyielding walls of contracted cavities and of small capacity. Stagnation causes distention, sometimes even rupture. An atonic bladder is one that has lost its contractility by overdistention. The function-crippling factor generally develops slowly, the muscular hyperplasia for some time keeping pace with the increasing obstruction, but at last the obstruction getting too great dilation and stretching begin. The appearance of such cavity is trabeculated and rugous, sometimes deeply sacculated. Chronic vesical stagnation, later affected also the ureters and renal pelvis, and the ureterovesical valves become so patulous as to be almost without resistance. The natural check to reflux is thus removed, hence the development of an intrapelvic pressure and of hydronephrosis. Where the hydronephrosis is extensive the kidney is involved and its function largely damaged. Vesical infection added, the inflammation first manifests itself by a cystitis. It is its ascent up the ureters and into the renal pelvis which was of chief importance. In the renal pelvis it is especially dangerous, because it cripples the renal function by involvement of the tubules. It is reasonable to suppose that these effects, especially if severe, will not immediately disappear after the crippling factor is removed, but it is surprising how soon normal conditions will be effected if the operation and after-treatment had been thoroughly performed. It is important to bear in mind that not only should the disturbing factor be removed, but also vesical rest through artificial drainage should be secured until the lesions in the urinary tract have had time to heal.

A Simple and Accurate Method of Substitute Infant Feeding.—This was the title of a paper read by Dr. H. D. Chapin of New York. There are three equally important factors in the preparation of a substitute for woman's milk: (1) Selection of good cow's milk; (2) modification of the milk with reference to percentages; (3) the choice of a diluent. Milk is rendered unfit for use by growth of certain kinds of bacteria. Growth of bacteria is prevented by cooling milk to below 60° F. Cooling milk also promotes separation of cream. If the milk is bottled right after milking, cream will be up by the time it is delivered to families. There is great variation in richness of milk and cream, but the same milkman's supply is quite uniform from day to day. Calculated mixtures of milk and cream are not accurate and only confuse, as standardized milk or cream can seldom be procured. What is at hand must be used. The variation of milk and cream in milk-bottles is seen in a bottle of milk on which the cream had risen. There are two great classes of milk: (1) That which forms hard solid curds with rennet—cow's and goat's milk; (2) that which forms soft flaky curds with rennet—woman's, mare's and ass's milk. Digestive enzymes act by contact and the food that is most finely divided and can most easily leave the stomach is the most suitable for weak digestions. The proteids of woman's milk easily leave the stomach. Little of the proteids of cow's milk diluted with

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water can readily leave the stomach. Diluting with a wheat or barley gruel in which the starch has been digested breaks up the curds. Digested gruel is made by boiling a heaping teaspoonful of flour with a pint of water, cooling and adding an aqueous solution of diastase, that can be made at home from malted barley grains, or Cereo, a preparation of diastase made for this purpose. Specimens of milk diluted with water and digested wheat gruel, and curded by rennet were presented. The curds with digested gruel diluent passed through a sieve having 900 meshes to the square inch, those with water diluent remained on the sieve. Have milk bottled at the dairy. Dip off top nine to sixteen ounces into a pitcher or bowl. Here fat and proteids are in about same ratio as in woman's milk. If a siphon is used the sediment goes into the infant's food. Prepare the digested gruel. Make the infant's food one-eighth to one-third of nine ounces top milk or one-eighth to two-thirds of sixteen ounces top milk, the balance digested gruel. Add one part sugar to twenty or twenty-five parts food. Fine adjustments of percentages are not needed by this method. Nearly the same percentage results will be attained with any milk. Rich milk will be diluted more, poor milk less. Each additional ounce removed from milk-bottles reduces the fat in top milk .5 to 1 per cent., which cuts down the fat in infant's food ⅛ to ⅓ per cent., depending on the dilution.

TUESDAY—EVENING SESSION.

Primary Rupture of Ectopic Gestation.—Dr. G. McNaughton of Brooklyn said that in this abnormality the moment of primary rupture is that for opportune diagnosis. There are three types, ovarian, tubal and tubo-ovarian. The abnormal or ectopic pregnancy is a modern condition more and more recognized by the average practitioner. The writer has seen seventy cases in his own practice. The differential diagnosis is easy, but requires care in the history-taking and physical examination. In brief the early symptoms are those of pregnancy, actual or presumptive which persist for the first two or three weeks and finally comes the primary rupture of the tube either into uterus, adnexum or abdominal cavity, accompanied by pain or discomfort, signs of moderate or intense hemorrhage, and almost always a few ounces of blood through the uterus and vagina, even when the rupture is intra-abdominal. The physical examination shows a soft tender steadily increasing tumor as days and weeks pass until the final rupture. This tumor is almost pathognomonic. The site of ectopic pregnancy is almost always primarily the tube. Ovarian forms do not occur as such. The expulsion of the ovum may be into the uterus or cellular tissue of the adnexum or into the pelvic cavity. The first and third with or without and the second route always with rupture of the tube. Conditions simulating this one in the presence of normal pregnancy are (1) small soft ovarian cysts, especially pediculated and suddenly twisted on this base; (2) fibroids subserous soft and pediculated in the same way; (3) ovarian or tubal or tubo-ovarian abscess occasionally, but the presence of the inflammation differentiates; (4) acute appendicitis. Rupture occurs at about the sixth week. During the interval failure of menstruation or irregularities of it, then the steady pain or discomfort without fever. These are suggestive. Actual rupture has its clear picture. The treatment is to operate before rupture if possible. If rupture is suspected give aconite (no stimulation), ergot and belladonna. Operate at once. After this restore lost blood by saline solution and stimulate against the combined shock of the rupture and the interference.

Dr. Dawbarn of New York reported a case of disseminated abdominal sarcoma which closely simulated ectopic gestation and led to that diagnosis until the laparotomy corrected it.

Leprosy in the Hawaiian Islands.—This matter was reported in full by Dr. C. E. Davis, of Albany. In September, 1898, the writer accompanied the Annexation Commission to visit and inspect officially, the settlement and mode of living of the lepers on Molokai Island. The visit afforded an opportunity for a careful and complete observation of leprosy in all its forms. There are two leper colonies, namely, Kalaupapa and Kalawao, each a little village in itself. Molokai is probably the most complete settlement of its kind in the world and is maintained at a cost of about $90,000 a year. It has stores, markets, dispensaries and cottages for lepers. The majority of the lepers live in cottages, and in the settlement there is a total of 716 buildings. Liberal monthly rations are supplied by the Government. Official measures for the suppression of leprosy were adopted as early as 1865, when King Kamehameha sanctioned a public law providing for a portion of land to be set apart for the isolation of persons deemed, by official examiners, capable of spreading the disease, and for a hospital where persons in the incipient stages might be treated. From this beginning has developed the leper settlement of Molokai, with its hospitals and separate "homes." A year ago the number of inmates of the settlement was 1207; 61 of these being priests, sisters, etc.; 73 helpers, and 1073 lepers. The death-rate per annum varies greatly, often more dying during the year than had been admitted during the same period. Some years, however, the number of deaths is as low as 40 or 50 per cent. of the admissions. Among the causes of spread of the disease are the low moral standard of the natives, their filthy habits of using the same beds, clothing, pipe, dishes, etc., the custom of kissing and nose-rubbing; cohabitation, and bad sanitary surroundings. Vaccination with humanized virus, during the great epidemic of smallpox in 1852-53, is also said to have aided in the dissemination of leprosy. There are three prevailing types of the disease, the tuberculous, the anesthetic, and a mixed form. The symptoms of the first two differ widely, while the mixed

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form, the most severe of all, manifests the symptoms common to both the other types. The period of incubation is generally from two to four years, but in some cases even longer. That leprosy is not hereditary is proved both by the very great percentage of nonleprous children of leprous parents, and by the fact that it is now known to be a parasitic disease. Among the many remedies used are chaulmoogra oil, gurgin oil, salol, arsenic, strychnine and creosote. Local applications of ichthyol, chrysarobin, salicylic acid, and goto lotion are also employed. Bacteriologist Hoffman has recently written a very important report on the hypodermic use of chaulmoogra oil. During the five months in which he has been experimenting with it, the results have been very gratifying. Rigid segregation has been the greatest safeguard against leprosy. Without it the disease would have been vastly more widespread undoubtedly among the whites as well as the natives.

Elbow Disability.—Dr. Samuel Lloyd of New York said that in damage about the elbow joint partial or complete loss of function in ankylosis is due to bony obstruction and very rarely indeed, never in his own observation, to fibrous tissue such bony substance may be callous in abnormal amount and unfortunate relation, or pieces of bone floating as foreign bodies in the joint cavity or most commonly faulty and misplaced fragments united to form a deformity. These last may consist of the epiphyses, condyles, head of the radius and base of the ulna and are common enough. The value of the X-ray comes in here to determine cause, degree and site of the obstruction in old and recent cases and to indicate the line of treatment and to verify its proper course and results while they are being established and still open to correction if faulty. The treatment of these cases is easily decided, primary immediate replacement by open operation when other means fail. In compound fracture one does not hesitate to invade an involved joint for replacement why should one not similarly open the joint in these irreducible and unreduced simple fractures? His own results by this method have been entirely satisfactory. The attitude for the after-treatment must be as full flexion as possible to avoid a helpless, useless member if a bad result in the joint supervene.

Dr. Dawbarn of New York said that in the swelling about the elbow so fatal to good diagnosis full anesthesia and the application of an Esmarch bandage from fingers to shoulder will be very serviceable in eliminating the edema. Passive motion should not be begun for about six weeks to avoid undue callous excitation. Dr. Beck of New York said that X-rays are alone the means of good diagnosis. Dr. Lloyd in closing said that three weeks are enough to acquire bony union, strong enough to stand slow gentle motion, to avoid stiff joint.

The Tonometer and Arterial Pressure.—Dr. H L. K. Shaw of Albany read this paper. It will appear in full in the MEDICAL NEWS.

Pleuropericardial and Diaphragmic Adhesions.—Dr. D. H. Goodwillie of New York calls attention to the great frequency of interpleural pathological conditions as compared with other pulmonary diseases, as shown by physical examinations and autopsies. Pleuroplastic exudation, if not early recognized and removed by appropriate measures, thickens the pleuræ, organizes and forms adhesions between the costal and pulmonary pleura, the pericardium, diaphragm and pleura. These latter complications are of serious importance, and are not so readily recognized by the physical examination.

He insists on the importance of a very careful study and observation of rational and physical signs respecting interpleural pathology, the requirements respecting the auscultator having perfect hearing and ability to recognize, first, normal chest sounds and then the abnormal sounds which are in great variety and dependent upon the many pathological conditions. The necessity of a knowledge of the laws of acoustics as applied to the chest sounds, how they are conveyed and changed by passing through the various tissues from the point of inception within to the ear of the auscultator. In the year 1876 Dr. Goodwillie, by invitation of the late Dr. Leaming of New York, examined with him the diseases of the chest in his service at St. Luke's Hospital. One hospital case was given in full and many other from private practice, the autopsies in all cases verifying the diagnosis of pleuropericardial and diaphragmic adhesions. Dr. Goodwillie exhibited colored wax models showing these lesions. During the summer of 1878, by invitation of the Committee of the United States Government appointed to investigate bovine pleuropneumonia, Dr. Goodwillie with others made examination of condemned cattle. The autopsies were immediately performed, showing pathological conditions as found also in the human being.

Differential Diagnosis of Diseases of the Spinal Cord.—Dr. E. D. Fisher of New York said that this diagnosis rests entirely upon one's knowledge of the anatomy and physiology of the various parts of the cord. The anterior horns control the nutrition and action of the muscular system. Any destruction of this part must be followed by muscular paralysis and then wasting away. The lateral tracts have only motor functions, without any sensory or nutritional change. Hence disease here means only paralysis, but without any trophic signs. Since, however, cerebral inhibition is cut off there will be exaggerated reflexes, as seen in lateral sclerosis. The posterior tracts are entirely sensory. Hence in their lesions pain is prominent and other disturbances of sensation and later of coordination, which depends on feeling. Locomotor ataxia is the best example. Diseases classified according to the site of their lesions are in the anterior horns—poliomyelitis, acute and chronic, progressive muscular atrophy, and hemorrhage into the cord substance. All these present paralyses followed by atrophies. In the lateral or crossed pyramidal

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tracts there will be lateral sclerosis following myelitis, injury and Pott's disease, all with pure paralyses and no atrophies. In the posterior columns there will be present all grades, degrees and variations of sensory disturbance and coordination making the symptom-complex of tabes dorsalis.

Pus in the Peritoneal Cavity.—Dr. R. T. Morris of New York said that leucocytosis is our guide to what is going on in the abdomen and should always be considered as an element of the treatment. Personal resistance by the patient is also a factor. Gauze drains are apt to increase shock by irritating the sympathetic nerve-filaments. Iodine poisoning from gauze may be mistaken for septicemia. Dr. Boldt of New York said that true septicemia is always fatal. Dr. W. G. MacDonald of Albany said that irrigation and drainage cannot be ignored and that the phenomena of no leucocytosis in virulent cases shows that blood count may not help at all.

Spinal Cocainization.—Dr. G. R. Fowler of Brooklyn discussed the indications and limitations of spinal cocainization in surgery. Whenever mental shock from consciousness of the circumstances about the operation and inconvenience from active reflexes are not to be feared, it is a very good substitute for general anesthesia. He has had 104 cases distributed upon foot, leg, knee, thigh, groin, pelvis and its contents, abdomen and thorax. Above the umbilicus this method is very unreliable in degree and duration. The extremities show effect the longest. In brief therefore its best fields are below Poupart's ligament.

SECOND DAY—JANUARY 30.

MORNING SESSION.

After attendance upon an interesting exhibition clinic at the Albany Hospital, the Society listened to a poem entitled Appendicitis by Dr. J. H. Doughty of Matteawan.

On Tendinitis and Tendovaginitis Prolifera Calcarea, with Roentgen-ray Demonstrations.—Dr. Carl Beck of New York read the following history: The patient, a Russian tailor, forty-two years of age, noticed a painless swelling formed at the dorsal surface of his right hand. In September, 1900, the growth had gradually reached the size of a moderately large apple. Osteosarcoma was suspected first, but the Roentgen-rays showed the presence of a chronic inflammatory process and a defect in the third metacarpus. Extirpation revealed a yellow, cheesy mass, filling the bone-defect. The synovia was also partially destroyed. But the most surprising feature of the condition was that the extensor tendons of the fingers, excepting the thumb, appeared as if cemented into one mass of mortar. By dividing this mass the knife gave a loud grating sound. Of the tendon of the third finger only a few rudimentary fasciculi had remained, so that it had to be sacrificed entirely. The fasciculi of the second and fourth extensor tendons were kept apart by the concretions. They were in fact so much incrusted that only a small portion could be left. The weight of the whole amount of the calcareous mass removed proved to be eighty grams. The microscopical examination, which was made by Dr. Henry T. Brooks, showed round-cell granulations and the presence of staphylococci, but no evidence of tubercule bacilli. There were also deposits of phosphates and carbonates of lime. The fragments of the tendons showed granulation of the peri- and interfascicular connective tissue. Hematoxylin colorized the degenerated tissue dark-brown violet and picrocarmin changed it into red.

Treatment of Puerperal Fever.—This was the title of a paper read by Dr. H. J. Boldt of New York. Its varieties are: Acute bacteremia, chronic bacteremia, sapremia, and septic infection; subdivisions may be made from the latter. He thought these terms better than septicemia and pyemia, and the term septic infection used in the broad sense for infection. Acute bacteremia is caused by micro-organisms invading the circulatory system from some primary seat, the infection-producing elements multiplying so rapidly that the patient usually succumbs within five to seven days after the beginning of the disease. Usually the germs are streptococcus pyogenes; other pathogenic germs may be present.

Chronic bacteremia is caused by the invasion by streptococcus pyogenes alone or in conjunction with other germs, but they disseminate from an infected thrombus; they are not diffused in one large quantity, neither are they possessed of the same virulence. The production of abscesses in this condition, upon which the pathological difference between acute and chronic bacteremia depends, is due to organisms finding a resting-place outside of the blood-circulation, and there giving rise to abscess. All these diseases being due to "septic infection" in a *broad sense*, he would limit the application of this term to those cases in which the infection is local, bearing in mind that a local infection may have severe constitutional symptoms.

Sapremia is caused by the absorption of decomposition products, toxins, saprophytes; as for example, placenta, decidua, blood or lochia in the genital tract. This disease may develop into one of those previously spoken of. In many instances it is impossible to classify a case until the patient has been under observation for some time. Septic infection, although it covers all these varieties in a clinical sense, and is an appropriate term at the bedside, should not be used in reporting cases, without such details as will convey an idea of the patient's condition. The prognosis of acute bacteremia is unfavorable. He had seen no recoveries from it.

Prophylaxis is most important with puerperal women. Fever having developed, keep the patient at perfect rest. Next, attention should be directed to the primary entrance of the fever-producing agents. If the seat of infection is about the vulva or in the vagina, or both, the treatment

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should be cleanliness. If no local injury is found, then the interior of the uterus may be examined. It should not be done if the general condition, especially the pulse, is good, and the temperature is not above 101° or 102° F., because retained tissue is usually expelled spontaneously in a short time. Therefore, unless it is known that foreign elements are within the uterus, it should not be explored, unless it seems to be necessary. Abstain from unnecessary meddling. For the removal of foreign elements a curette should be discarded, except by those accustomed to its use in such cases, and then only if the retained tissue has been located by the finger and cannot be removed by it. A curette should never be used in septic endometritis, because it intensifies infection by causing fresh wounds. An intra-uterine douche is always advisable before and after manipulations within the uterus. It should not be repeated unless the secretions are purulent, and there is a continued fever. Under such circumstances he had seen benefit result from an intra-uterine douche of peroxide of hydrogen, 25 to 75 per cent., or other antiseptic. He had found that if no intense systemic infection were present and if the uterus remained enlarged and relaxed, after being cleansed, a treatment of benefit is gentle massage of the organ at intervals varying from one to three hours. So far as he knew, this had not been advocated by any one previously. The massage is the same as when used for inciting uterine contractions for expulsion of the placenta—a circular motion. Antipyretics, especially the coal-tar preparations, are harmful; they lower the temperature only temporarily, and act with deleterious effect on the heart and nervous system. He had seen no benefit from gauze placed in the uterus for the sole purpose of drainage. If the infection is localized in the pelvic cellular tissue, or the peritoneum, the application of an ice-bag or coil should be resorted to. He had also found benefit from unguentum Credé. If there is positive evidence of pus, the abscess should be incised; the incision should be large to permit thorough cleaning and drainage. Frequently puerperal pyosalpinx is of gonorrheal origin. The safest treatment is vaginal incision. The patient should be handled carefully, so that adhesions in the pelvis are not disturbed. If patients with septic infection are not benefited by the treatment suggested, or if there is reason to believe that additional resort to minor interventions would be useless, and if we are sure that the continuance of infection comes from the uterus alone, hysterectomy should be considered. Serum treatment, as now in use, is of no benefit. In some instances of diffuse septic peritonitis, where there is no bulging from an exudate in the pelvis, an extensive abdominal section, separation of adhesions, with thorough flushing of the abdominal cavity with saline solution, and drainage, may be resorted to.

He has seen no benefit from saline infusions, and had no treatment to suggest for acute bacteremia. He does not believe that benefit is to be derived from incising the cul-de-sac of Douglas, and draining the pelvis with gauze for the purpose of aborting acute bacteremia, when there is no exudate in the pelvis. Chronic bacteremia should be treated according to indications in an individual case.

Early Diagnosis of Insanity.—Dr. Carlos F. MacDonald of New York said that this subject is important because usually the responsibility of recognizing insanity in the first instance devolves on the family physician. It is important also because insanity is a disease from which no one can claim exemption; and because it is more frequent, serious and far-reaching and involves a wider range of interests regarding the welfare and happiness of individuals, of families or of communities than any other malady known. There are about 22,000 insane in custody in this State today, involving an outlay of $20,000,000, for hospital plants, and of $5,000,000 annually for maintenance. There is no disease which creates a greater distress and helplessness on its invasion of the family circle, nor is there one more likely to be mismanaged in the initial stages. In their stress and anxiety the friends of the patient naturally turn to the family physician for advice and assistance. Hence the importance of informing oneself respecting its early symptoms. Its study presents nothing new or incomprehensible. Its phenomena on the mental side consist largely of modifications of the natural characteristics of the individual, whether in exaggeration, perversion or diminution. These modifications are merely the outward expression of disturbance of the intellectual areas of the brain. These symptoms may be summarized as a prolonged departure from the methods of thinking, feeling and acting which were usual to the individual when in mental health. Insanity is a comparative state, there being no common standard of sanity departure from which constitutes insanity. Every individual has his own standard, and in determining one's mental condition he must be compared with himself, *i. e.*, with his normal mental status, and not with any other man's. Therefore it is only when a man differs from himself, so to speak, that he may be regarded as insane. Two individuals may exhibit precisely similar symptoms and the one be sound and the other a lunatic. The invasion may occupy days, weeks or even months, although in some cases the onset is quite rapid and any marked change in the mental or moral tone of an individual should at once arouse suspicion. Prominent prodromata are disturbances of bodily functions, morbid emotional manifestations and alterations in the mental characteristics. Somatic functional disturbances express themselves in various ways, such as *pavor nocturnus*, insomnia, headache, tinnitus vertigo, vasomotor disturbances, anorexia, indigestion, constipation, etc. Any or all of these symptoms may occur in persons who never become insane; hence, while frequently observed in the prodromal stage of insanity, they are not pathognomonic. When found, however, they are always significant, especially in persons

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predisposed to mental disease. Insanity is rarely due to a single predisposing or a single exciting cause. Usually a combination of causes will be found. Although the immediate cause is malnutrition of the brain, any disease or condition which impairs the bodily nutrition or alters unfavorably the quality or quantity of the blood-supply is capable of becoming a cause of insanity. The function of the mental faculties depends on the health of the physical system. There can be no unsoundness of mind, in a medical sense, without unsoundness (disease) of body. Many cases of acute insanity could be avoided if the prodromata were recognized and relieved. Prevention is better than cure, and to recognize mental disorder in its incipiency will frequently enable remedial measures to be adopted most opportunely for arresting its progress. Doubtless many minds of the highest order have been damaged beyond repair simply for want of appropriate treatment during the early manifestations of their disturbance.

Dr. Drayton of New York said that the timely elucidation of this important matter was serviceable to the Society, because the early and careful diagnosis of insanity was annually more important and, though not easy, should be more commonly within the ability of the average practitioner.

Contribution to Pelvic Infection in Women.—Dr. C. A. L. Reed of Cincinnati, President of the American Medical Association, guest of the Society, drew the following conclusions: The barriers to infection are (1) the epithelium in the genito-urinary tract; (2) the anatomy of the cervix uteri and the characters of its secretion; (3) the vagina and specifically its acid secretion; (4) the gonococcus is especially deadly to the epithelium; (5) the bacteria non-pathogenic or mildly so in one section may be virulent elsewhere; (6) in ways not yet known the phagocytes protect; (7) septicemia in serious or deadly form results from infection when the genus or their toxins circulate in the blood.

Dr. Boldt of New York said that the resistance and constitution of the patient are also barriers to infection in unknown ways. Dr. Dudley of New York said the gonococcus always leaves its mark in scars about the small gland-ducts of the vulva, vagina and urethra, and when he sees such scars he always is sure of local infection in the past.

The Society here passed a resolution to support the Pathological Institute of the New York State Hospitals for Insanity and Related Diseases in its fight for existence before the present Legislature.

The Anniversary Address.—Dr. A. M. Phelps of New York presented the Radical Cure of Inguinal Hernia as the subject of the ninety-fifth presidential address. He said that there is probably no other surgical affection which has commanded more attention from the profession, or wrought more disaster to the human family, than inguinal hernia. When it is remembered that for hundreds of years no rational operation had been attempted for the relief of strangulated hernia; and, knowing full well the frequency of that dangerous malady and the frightful mortality, amounting to more than seventy-five per cent. when not treated surgically—we can fully appreciate the importance of preventing the occurrence of strangulated hernia by a rational operation before strangulation takes place.

For more than two thousand years, surgeons of every decade and century have proposed and performed operations based upon some theory or other to prevent the descent of the intestine into the inguinal canal, always meeting with a signal failure; and it may seem strange, but still it is true, that not until twelve years ago was any operation performed that would receive one moment's consideration to-day from any surgeon who is familiar with the subject.

Up to 1846 cauterization, ligation of the sac and spermatic cord subcutaneously, suturing of the canal and the sac either subcutaneously or through an open wound, excision of the whole or part of the sac, castration together with the actual cautery applied to produce sloughing of the parts, are vividly described.

Another favorite method was the introduction of foreign bodies into the hernial sac, the object being to produce a mass of new inflammatory material, which would prevent the descent of the intestine. The injection of irritating fluids within or outside of the hernial sac became a favorite method. But of all the methods of mediæval times, the one that has survived is subcutaneous suture, which has been practised almost up to the present time in Great Britain and Italy. The Bassini operation appeared in 1888 and that of Halsted in 1889.

Technic.—The operation first performed by Dr. Phelps in the winter of 1892-93, with the modifications he has made, is as follows: An incision is made from a point one inch to the inner side of the anterior superior spinous process to the spine of the pubis, and carried down to the sac and to the peritoneum, splitting the entire length of the inguinal canal to about an inch and a half beyond the internal ring. The cord is separated from the sac and lifted from the canal, and the sac cut away. The sac is not cut too short, neither is it left redundant. This sac is stitched up with a continued suture of fine silver wire. The transversalis muscle and the internal oblique are separated from the external oblique and stitched together with a continued suture of wire, beginning at the spine of the pubis, closing the canal firmly. The muscles are slightly notched external to the internal abdominal ring to allow the cord to pass through without pressure. The third row of sutures closes the aponeurosis of the external oblique, together with the pillars of the ring the entire length of the wound, the aponeurosis being notched at the point where the cord makes its exit. Over all, the skin and cellular layer are stitched with catgut. Great care is exercised in stopping all hemorrhage before the wound is closed. After the sac has been stitched up (and underneath all of the muscles) over the entire length of the inguinal canal is placed a fine filigree

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of silver wire. Over this each muscular layer is stitched. The muscles must be perfectly separated one from the other, in order to secure the best coaptation. The skin is stitched with catgut. The cord lies directly under the skin, as in Halsted's operation. In a very fat subject, a small drainage tube is inserted down to the wire, which is removed at the end of thirty-six hours. Three rows of continued wire sutures are used in all herniæ, *viz.*, neck of sack, deep layer of muscles and external oblique. In cases of small hernia, instead of putting in the wire filigree or mattress, a few loops of wire are placed directly across the canal over the transversalis fascia and peritoneum, and the muscles stitched over it; or the layers of muscles are closed with a continued suture of fine silver wire, both ends of which are anchored, and all of the ends cut short so as not to irritate the tissues. For large openings a wire mattress or filigree is absolutely necessary. In all cases of relapsed herniæ, when there is atrophy of muscles due to pressure, it is imperatively demanded or a relapse will likely occur. In smaller herniæ a few wire loops are sufficient; a mattress suture, the two ends of which are fastened firmly in the muscles, is all that is required, the mattress being omitted. Two rows of these continued sutures are necessary, one for the deep and the other for the superficial layer of muscles. In making these filigrees from ten to a hundred and fifty feet of wire are required, depending on the size of the opening to be closed. It has been urged that this wire will cause suppuration. Suppuration is not produced by any foreign body. It is always produced by bacteria. He has never yet been obliged to remove the wire, with the exception of once or twice, and these were soon after operation on account of certain complications arising not due to the wire. Out of 238 cases thus treated he has had no deaths and but eighteen suppurations. None of these suppurations destroyed the result of the operation and all were due to causes proved not to depend on the wire.

WEDNESDAY—AFTERNOON SESSION.

A Hair-Cast of the Stomach; its Successful Removal by Laparotomy.—Dr. N. Jacobson of Syracuse read this paper. He showed the cast which weighed fifteen ounces. Dr. R. T. Morris of New York City said he had once found hair in the appendix.

Surgery of the Spleen.—Dr. J. C. Warren of Boston said that the diseases for which this viscus is amenable to operation are as follows: Malarial spleen, anemia, leucocythemia, chronic enlargement, actual hypertrophy, atrophy of the liver with secondary splenic enlargement, amyloid degeneration, ecchinococcus cyst, angioma, fibroma, abscess, rupture, tuberculosis, sarcoma, floating spleen, twist of the pedicle. The revised death-rate for such cases is 12.2 per cent.

Dr. Van der Veer of Albany said that he operated on what proved to be an angioma of the spleen. The patient lived in fair health with a chronic sinus for fourteen months and died eighteen months after operation.

Inguinal Hernia.—Dr. M. Ricketts of Cincinnati gave a complete and comprehensive description of the anatomy involved in inguinal hernia. He claims that, etymologically and anatomically, the use of the word canal is wrong, ring being the proper word. A circular letter was sent to over one hundred prominent surgeons. Many interesting facts can be deduced from the replies received. Thirty-four surgeons gave an approximate percentage of recurrence in their practice; this percentage varies from one to fifteen per cent.; this last percentage agrees with that of Professor Girard of Berne for results in Europe. The average is 5.58 per cent. based on 6027 operations by 34 surgeons. From statements contained in letters received in answer to the circular, it is fair to infer that only one-half of the total number of operations were reported. This would bring the percentage up to about 15 per cent. These letters show that infection and recurrence are less frequent when wire or silkwormgut is used in the Phelps, Halsted, or Abbe method of operation. The writer bears unequivocal testimony to the success of the Phelps operation; he employs it and considers it ideal. It is the only one that insures successful and permanent cure. He agrees with Abbe that silver wire or silkwormgut is to be employed in preference to absorbable sutures. He does not believe that suppuration has anything to do with causing recurrence; the real cause or rather causes of relapse are deficient origin (attachment) of the internal oblique muscle, pressure of a truss (where one has been worn), length of time that hernia has existed, lack of nerve and blood-supply, and intra-abdominal pressure rupturing the cicatrix. The last factor can be disregarded if the Phelps method is employed, because if the wire mattress is once placed properly there is no possibility of relapse by a rupture from the intra-abdominal pressure. He doubts the doctrine that varicocele is a cause of inguinal hernia, and holds that all herniotomies should be regarded as modified laparotomies. The prevalence of hernia suggests the questions. Is there anything in the habits engendered by our rapidly-advancing civilization that is conducive to the production of hernia? Is man progressing toward morphological perfection or degeneration? He refers to the historically interesting edict of Constantine, forbidding operations which involve loss of cord and testicle, for fear that the population of the country would suffer.

Grastro-jejunostomy in Gastrectasis.—Dr. A. H. Cordier of Kansas City, Mo., pleaded for this operation in preference to the radical measures when such can promise very little or no relief and when they involve undue hazard.

Toxin of the Colon Bacillus.—Dr. V. C. Vaughn of Ann Arbor, Mich., said that the colon bacillus appears to make a poison insoluble except in the body fluids. This explains why in some body fluids it is innocuous and in others very fatal.

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The So-Called Traumatic Neuroses.—Dr. H. N. Moyer of Chicago, Ill., denies the existence of this condition and says the symptom-complex called by this name is either hysteria, neurasthenia, hypochondria or melancholia.

The Election of Officers.—The Nominating Committee reported the following named gentlemen as officers for the ensuing year: Dr. H. L. Elsner of Syracuse, President; Dr. L. N. Lanehart of Hempstead, Vice-President; Dr. F. C. Curtis of Albany, Secretary; Dr. O. D. Ball of Albany, Treasurer.

These gentlemen were duly elected and the meeting adjourned on Thursday morning.

BOOK REVIEWS.

REPORT OF THE SURGEON-GENERAL OF THE UNITED STATES NAVY, FOR THE YEAR 1899; Washington, D. C. 1900.

CANDOR makes necessary the statement that some of the numerous bureau reports that go out of the government printing office in Washington are models of dryness, replete from cover to cover with uninteresting details, made up mostly after the manner of the reports of some of the great State Hospitals for the Insane in the State of New York. But this statement is untrue, in so far as it applies to the report of Dr. W. K. Van Reypen, Surgeon-General of the United States Navy.

Dr. Van Reypen's report is a model of completeness and compactness, and contains a vast amount of general and special information, information that is was possible to procure and present only on account of the recent war with Spain. Indeed, the very first page of the report contains a statement that almost takes one's breath away, judging from the way that public expenditures are made these days. Dr. Van Reypen says "$100,000 was appropriated by Congress for the Bureau of Medicine and Surgery for war purposes, and $37,000 of this has been returned to the Treasury." Think of it! Marvelous, indeed, that a great bureau of the government should permit, nay, cause this amount to lapse back into the Treasury as an unexpended balance. There is no need in dwelling on the why and wherefore of this balance; it is there, and that suffices.

Dr. Van Reypen calls attention, as many of his predecessors in office have done before, to the great demand for more medical officers in the Navy. There has been an urgent need for an addition to this force for many years, and there has likewise been a demand for raising the grade of the junior officers in the medical corps. Not only are these junior officers underpaid and have a lower relative rank than men of virtually the same standing and grade of education in the Army; but they do not receive the same emolument from the government; which facts tend to make a medical position in the Navy less desirable than in the Army. The result is obvious; the Army selects its men from a long waiting list; the Navy is rather forced to accept, not inferior men; but to suffer great delay in procuring the number of men it actually requires.

In speaking of the work of the medical officers, Dr. Van Reypen has this to say on this point: "An examination of the professional work of the medical officers, ashore and afloat, exhibits care and accuracy in the preparation of all official papers and a commendable zeal in the performance of their duties." The Surgeon-General states that the daily average number of patients under his care during the year was 678.63; the total number of men on duty daily in the Navy being 23,986. There were 173 deaths reported during the year, of which number 118 were from disease and 55 from injuries. The low number from injuries speaks volumes for American seamanship and all allied forces, when we remember the great historic battles that were fought in Manila Bay and at Santiago.

The report is complete with histories of cases written by the officers of the Surgeon-General's corps. Some of the cases are extremely interesting and will find a lasting place in medical literature. And when we remember how these medical men did their work, how they operated under such great disadvantages as they often did, we marvel at the success they so frequently attained. It seems that the day is not far distant when the location and care of the "sick bay" on most ships will receive more consideration at the hands of those who design and construct these ships than they do at the present time. Think of a man lying in bed with a fractured leg and having that leg refractured just as it has commenced to knit together, simply from the concussion of the firing of a great gun within a few feet of that man's bed! This is not even humane, and such crude facilities for caring for the sick should be abolished just as rapidly and as effectively as possible.

If the Surgeon-General will permit the suggestion, we believe it would be an excellent investment for him to send his reports broadcast throughout the country, or as far as he may be able, in order that physicians of influence may become better acquainted with the actual medical and surgical work done in the navy. These physicians might then take an interest in it and might be able to secure the interests of the representative in Congress from their district. Eventually good will come of this, by virtue of the Surgeon-General of the Navy and his officers getting more of what their service requires. On the whole, we have nothing but praise for Dr. Van Reypen's report. It is a document well worth reading, worth filing and preserving, and is a valuable addition to any library.

MODERN MEDICINE. By JULIUS L. SALINGER, M.D., and FREDERICK J. KALTEYER, M.D. W. B. Saunders & Company, Philadelphia and London.

WE have carefully gone over this volume of 801 pages in the hopes of finding something modern in it, but we regret to say that we find it distinctly

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commonplace. The opening chapter on Symptomatology consists of a short account of the methods of examination. This is suggestive more of a quiz-compend than of a serious work on medicine, while Chapter II. on Clinical Bacteriology contains very little clinical knowledge whatever and should be designated descriptive bacteriology. The size and manner of growth of the various organisms is told, but what relationship, for instance, bacillus pyocyaneus has to clinical medicine is not given. The rest of the book is made up of an abridged account of the various diseases. It is sufficiently accurate to aid a student in passing examinations, but as a serious guide to the large subject of medicine, it should not be considered. The mechanical part of the book is all that could be desired.

PSYCHOPATHIA SEXUALIS. With Especial Reference to Antipathic Sexual Instinct. A Medico-Forensic Study. By Dr. R. VON KRAFFT-EBING. Translation from Tenth German Edition. W. T. Keener & Co., Chicago.

THE medical public is sufficiently cognizant of the value of this book and the English speaking public is to be congratulated on having an adequate translation. The previous one was more of a travesty than a serious performance. The present volume has preserved the truer point of view of the author.

The conditions here described are found in human nature, and as such are entitled to serious consideration and study. Such books are not written for babes and sucklings, and it is to be regretted that the historical form was adopted by the gifted author of the original, but there probably was no other way of presenting the subject.

The publishers' part in this volume is excellent.

ENCYCLOPEDIA MEDICA. Under general editorship of CHALMERS WATSON, M.B., M.R.C.P.E. Vol. II. Brachial Plexus to Digestion; Vol. III. Diphtheria to Food; Vol. IV. Foot to Hernia. Longmans, Green, & Co., New York.

WE have had occasion in reviewing the first volume of this large enterprise to speak of its excellent character. In the succeeding volumes, three of which are before us, the impression is made more distinct and, furthermore, the practical character of the work is made more and more evident with each new volume. As stated in our earlier review the Encyclopedia Britannica seems to have been the model on which the present work is constructed. This has its advantages, as well as its defects, thus the more typically medical topics are discussed while information bearing on collateral branches is absent. The chief weight is laid on medicine and surgery. Anatomy and physiology are well represented, hygiene and general topics as well, but materia medica, as such, is conspicuous by its absence. Thus, the drugs digitalis, ergot, belladonna, etc., are not even mentioned.

In Volume II. the article on the brain is very well done. There is not too much of it and yet what there is, is distinctly modern and authentic. The articles on diet, climate, digestion and metabolism are conservative and practical. In Volume III. the discussions on diphtheria, diseases of the ear, eczema, the enzymes and the development of the fetus are especially interesting and complete.

Volume IV. contains some excellent descriptions of diseases of the gall-bladder and the gastro-intestinal diseases of infancy. The chapter on gout is especially noteworthy, as is also the discussion of the physiology of the heart and its diseases. The cardiac neuroses are treated at some length.

These volumes are illustrated more fully than was Volume I. and already it may be said that the series is destined to become a very valuable one for handy reference. The valuable features are the concise and authentic descriptions and the full discussions of treatment.

BOOKS RECEIVED.

The MEDICAL NEWS *acknowledges the receipt of the following new publications. Reviews of those possessing special interest for the readers of the* MEDICAL NEWS *will shortly appear.*

FOOD AND THE PRINCIPLES OF DIETETICS. By Dr. Robert Hutchinson. 8vo, 548 pages. Illustrated. William Wood & Company, New York.

SANITY OF MIND. A Study of its Conditions, and of the means to its Development and Preservation. By Dr. David F. Lincoln. 12mo, 177 pages. G. P. Putnam's Sons, New York and London.

ENTEROCLYSIS, HYPODERMOCLYSIS AND INFUSION. A Manual for Physicians and Students. By Dr. R. C. Kemp. 8vo, 349 pages. Illustrated. Jas. T. Dougherty, New York.

STUDIES FROM THE DEPARTMENT OF PATHOLOGY OF THE COLLEGE OF PHYSICIANS AND SURGEONS, COLUMBIA UNIVERSITY, New York. Vol. VII., for the year 1899-1900.

CANCER OF THE STOMACH. A Clinical Study. By Dr. William Osler and Thomas McCrae. 8vo, 158 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia.

DISEASES OF THE NERVOUS SYSTEM. A Text-Book for Students and Practitioners of Medicine. By Dr. H. Oppenheimer. Translation from Second German Edition by Dr. Edward E. Mayer. 8vo, 900 pages. Illustrated. J. B. Lippincott Company, Philadelphia and London.

A MANUAL OF MEDICINE. Edited by W. H. Allchin. Vol. II. General Diseases. Demi 8vo, 380 pages. Illustrated. The Macmillan Company, London and New York.

THE CARE OF THE CONSUMPTIVE. By Dr. Charles Fox Gardiner. 12mo, 182 pages. G. P. Putnam's Sons, New York and London.

A TEXT-BOOK OF PHARMACOLOGY AND THERAPEUTICS. Or the Action of Drugs in Health and Disease. By Dr. Arthur R. Cushny. Second Edition, Revised and Enlarged. 8vo, 732 pages. Illustrated. Lea Brothers & Co., Philadelphia and New York.

PANAMA AND THE SIERRAS. A Doctor's Wander Days. By Dr. G. Frank Lydston. 8vo, 283 pages. Illustrated. The Riverton Press, Chicago.

RUDIMENTS OF MODERN MEDICAL ELECTRICITY. By Dr. S. H. Monell. 12mo, 165 pages. Illustrated. E. R. Pelton, New York.

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THE MEDICAL NEWS.

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ORIGINAL ARTICLES.

SOME UNUSUAL CASES OF INFECTIOUS DISEASES —A CLINICAL REPORT.

BY DELANCEY ROCHESTER, M.D.,
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Case I.—George D., American, aged four years. December 19, 1899, I found the boy with a sore throat that had come on about midnight of the 18th. His pulse was 80, of good quality and rhythm; temperature, 100° F. His pharynx was red; he was not hoarse; he had slight rhinitis. I make a practice of taking a culture from every sore throat and did so in this case as a routine matter. I was surprised at the report, received on the morning of the 20th, of pure culture of the Klebs-Loeffler bacillus being found. I immediately gave him 2000 units of antitoxin, although there was no exudate visible and the constitutional disturbance was no greater than the day before. Twelve hours after the administration of the antitoxin he discharged two large pieces of membrane from his nose. Twenty-four hours later he appeared better, but thirty-six hours later—that is, on the morning of the 22d—both tonsils and the posterior wall of the pharynx were covered with membranous exudate and there was a rise of temperature to 101.5 F., and of pulse to 120. The child was given 1000 units more of antitoxin and Loeffler's solution applied to the exudate. In thirty-six hours the exudate had almost entirely disappeared, and in forty-eight hours the throat was clear, the temperature normal, the pulse 80 and of good quality. The diphtheria bacillus had disappeared by December 30th, eleven days after the onset.

Case II.—C. W., English by birth, female, trained nurse, was first seen by me March 14, 1900, complained of cough and a little sore throat. Temperature was 103° F., pulse 100. There was some hoarseness and she complained of a feeling of soreness under the sternum. The physical signs of general bronchitis were present. The pharynx was a little red and as a matter of precaution I took a culture. The report was pure culture of Klebs-Loeffler bacillus. She was given 2000 units of antitoxin on March 15th. Twenty-four hours later a slight exudate appeared on the left tonsil. The temperature remained high and the pulse frequent and she had the appearance of profound toxemia. The respirations also began to increase in frequency and the hoarseness was more marked. Headache was violent and restlessness and sleeplessness were present. Under the circumstances, fearing that the bronchitis was diphtheritic in character, I gave her 2500 units more on March 17th, and applied Loeffler's solution to the throat. After this there was slight improvement in her general condition for about twelve hours and then she became decidedly worse as far as her general symptoms were concerned, the throat improving in its appearance, although the slight exudate still persisted on the tonsil. She was given 2000 units more on March 18th. Thus in eighty hours she had received altogether 6,500 units of antitoxin. Twenty-four hours later her throat was clear of exudate, but her general symptoms persisted and physical examination of the chest revealed the general bronchitis still present and a decided consolidation of the lower lobe of the right lung. At the same time she began to expectorate more freely, the sputum having in a mild degree the physical characteristic of pneumonic sputum, but not quite as tenacious and more blood-streaked than rusty. Nevertheless, examination showed it to be swarming with the pneumococcus in pure culture. Nine days after her admittance to the hospital culture from her throat showed the disappearance of the diphtheria bacillus. On the afternoon of March 23d, the tenth day of illness, her temperature, which had ranged between 101° and 103° F., began to fall, reaching 99.8° F. at 10 a.m., but in the afternoon it rose again to 101.3° F., and remained between that point and 100° F. for twenty-four hours. At 10 p.m., March 25th, she vomited. From midnight her temperature began to rise steadily, so that by 6 p.m. of the 26th it was 103° F., pulse 120, and respiration 38. At the same time she complained of intense headache and there was pronounced twitching of the muscles in her sleep. On the 27th her temperature ranged between 100° and 102.5° F., and she began to cough severely and complained of some pain in limbs. On the 28th, being the fifteenth day of disease, her temperature, pulse and respiration rose steadily, reaching 104° F., 130 and 40 respectively. At the same time she complained of great pain and soreness of limbs and chest, pain on motion of joints, and broke out in a profuse, red, macular rash over her body and limbs, but not on face. After reaching 104° F. at 10 p.m., March 28th, her temperature, together with her pulse and respiration, began to fall and continued to do so, accompanied by profuse sweating, through the 29th and 30th, reaching 98° F., 84 and 24 respectively at 6 a.m. of the 31st.

From that time on her convalescence was rapid and uninterrupted and she was discharged from the hospital April 9th, twenty-eight days after she was taken ill.

These two cases are interesting as showing the value of making cultures from all cases of sore throat. In this way, in each case I was able to make a positive diagnosis fully twenty-four or forty-eight hours earlier than could otherwise have been done. They also illustrate the value of large

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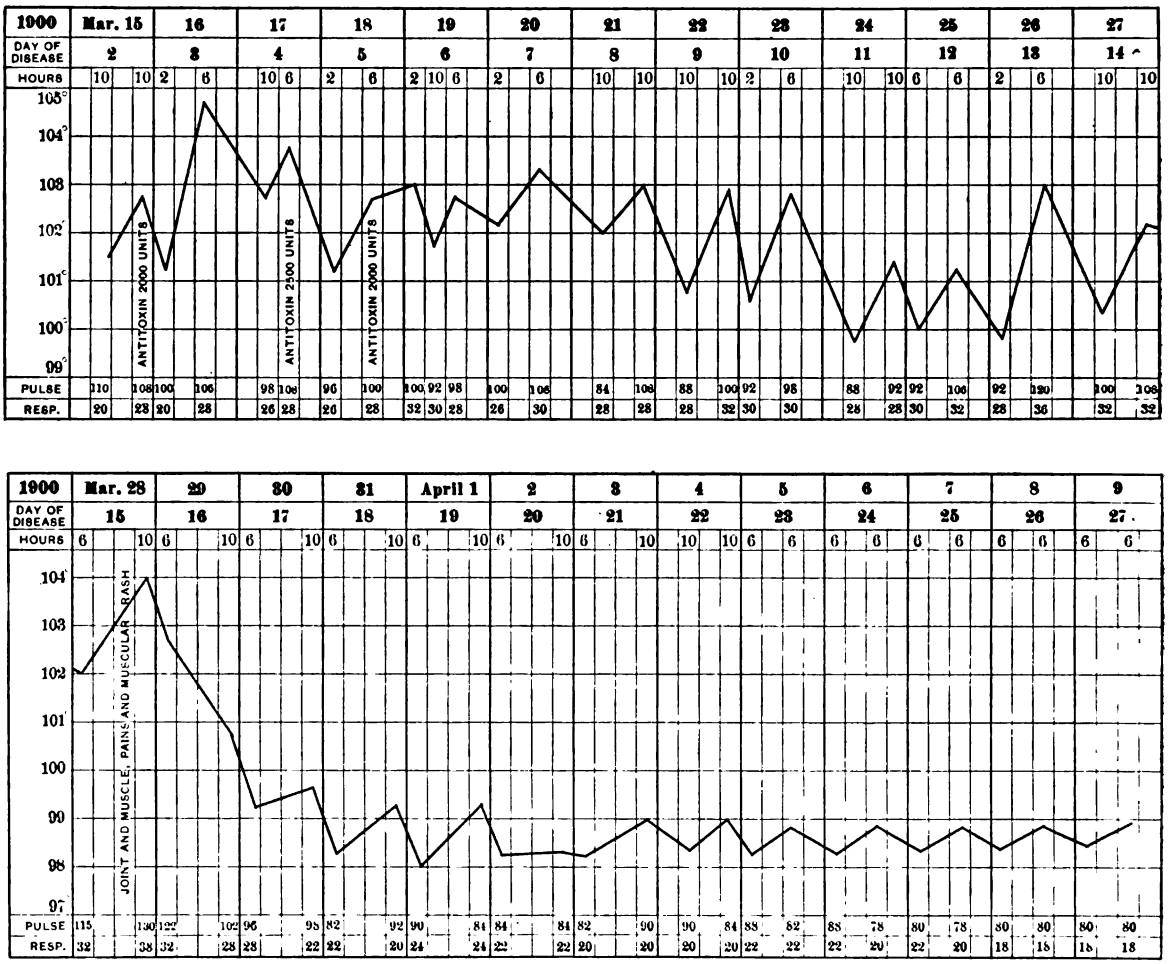
doses of antitoxin given early, together with the local application of Loeffler's solution, in causing the early disappearance of the organism from the throat.

The second case illustrates the importance of the use of all methods of diagnosis and the possibility of synchronous infection by two virulent micro-organisms. If it had not been for the examination of the sputum we might have been justified in considering the bronchitis and the pneumonia as diphtheritic in origin and might have continued giving even larger doses of antitoxin.

Case III.—November 8th, 1899, I was called to see J. L., aged eight years. The little boy had come home from school, complained of feeling sick, had vomited, and when I saw him was complaining of headache. His temperature was 102.5° F., his pulse 120, respiration 28. I immediately asked his mother whether there was any scarlet fever in the neighborhood. She said no. On examining him further I found a marked bronchitis with a few patches of pneumonic involvement at the base of both lungs. I gave the boy calomel, cupped his chest and ordered hot mustard foot-



Temperature, Chart in Case II.

The urine remained normal, except for slight diminution in amount of chlorides, thus showing the possibility of an individual suffering from two violent infections without the production of albuminuria.

The joint and muscle pains, the high rise in temperature, pulse and respiration of the last two days before the crisis, and the appearance of the rash, I think, were probably due to the antitoxin —the real crisis having started in three days before.

The three following cases of scarlatina *sine cruptione* are interesting:

baths every two hours. The next morning the nurse called my attention to the fact that during the footbaths he became very red, but when I saw him there was no rash on his body, and his tongue and throat showed no evidences of scarlet fever. In five days he was feeling very well and in eight days I had discharged him.

Cases IV and V.—On November 18th I was called to see his two little sisters, both of whom were fretting and a little feverish, with a temperature of 99.5° and 100° F. respectively. Their throats were not sore, but there was a little peculiar mottling of the skin, and they both had vom-

ited. The following day I was out of town and Dr. I. M. Snow went to see them in my absence and said that he thought they might both be mild cases of rötheln. In none of the three cases was there any albuminuria. Eighteen days after the little boy was taken sick he was so well that I vaccinated both him and his brother. When I had finished with him, however, I noticed that his fingers were desquamating a little, and I said to his mother, "I wonder whether we have had some mild cases of scarlet fever here." This doubt was settled by the oldest boy coming down in a few days with a typical case.

The following is the most remarkable case that I have to report:

Case VI.—J. Q., male, aged five years, entered the Buffalo General Hospital December 17, 1899, with the history of exposure to a case of scarlet fever during the stage of desquamation the week previous. The day before entering he suffered from nausea and vomiting, followed by fever and a slight punctate rash. His case was diagnosed as scarlet fever by Dr. George Himmelsbach, a physician of large experience in both hospital and private practice, and he was sent by him to the hospital. During the time that he was there under my observation the rash persisted eight days, his tongue was red and showed the papillæ prominently, his throat was slightly sore, his tonsils were swollen, but showed no exudate; the cervical glands and neighboring connective tissue of neck were swollen. He had a faint trace of albumin in urine, but no casts.

December 25th he began to desquamate and this continued until January 10, 1900. About January 6th another case of scarlet fever of very severe type, with an eruption almost vesicular in character, was placed in the same room with the convalescent. On January 12th I ordered that the first boy have his disinfectant bath and be discharged the next day, but when I made my visit on January 13th I found that he had a sore throat and that his temperature had risen to 101.8° F. The following day his temperature had risen to 104° F., and he was covered with a bright, coarse rash, vesicular and punctate in character, his tongue was coated, but the edges were decidedly red and the tip showing the elevated papillæ. He had headache and slight delirium. On January 16th he developed an acute nephritis of marked degree. In fact, he went through a second attack of scarlet fever of a severe type, desquamating freely. He was discharged from the hospital February 15, 1900. During the primary attack he was seen by Dr. Himmelsbach, who sent him into the hospital, by Dr. McCarthy, who was the interne in charge of the contagious wards, and by me. There was no doubt as to the correctness of the diagnosis. During the second attack he was seen by the three who had seen him in the first attack and by Drs. Stockton and Wende. There was again no doubt as to the correctness of the diagnosis. So far as I know, this case is unique in the fact of its recurrence only three days after the completion of the desquamation of the first attack.

REMARKS UPON THE CONSTRUCTION OF AMPUTATION-STUMPS, WITH A REPORT OF TWO CASES OF AMPUTATION BY THE OSTEOPLASTIC METHOD OF BIER.[1]

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THE ablation of an extremity for irremediable injury or incurable disease is so self-apparent that, without going too far back into the history of surgery, it may be safely assumed that it is one of the oldest operations recorded. The obvious simplicity of the procedure would lead us to believe that, with advancing centuries, its operative technic should have been perfected to such a degree that but very little of value could be added to this time-honored chapter of surgery. And yet a scrutinizing investigation of the subject will readily demonstrate the fact that our technic, especially when viewed in its final results, is anything but perfect. Everybody who has had occasion to follow up closely the ultimate fate of amputation stumps will agree with me that there still remains considerable to be desired. The proof of this is evident, in that most surgical text books very properly devote at least one, if not many, chapters to the discussion of the diseases of amputation-stumps and their treatment.

Critically examined, every amputation-stump should respond to the following requirements: (1) It must be able to support the weight of the body. (2) It must be painless. (3) It must be no more liable to local disease than any other portion of the body. (4) It must disfigure its owner as little as is commensurate with the nature of the ailment. It is needless to add that the first requirement does not pertain to stumps of the upper extremity.

It is far from me to deny the existence of stumps which respond to all the requirements mentioned; on the contrary, there are many quite well known, but if these are carefully examined it will be very readily seen that they are either typical exarticulations or that they belong to either the Pirogoff, or Gritti, or Sabanjeff type—in other words, in proximity to a joint, a kind of modified exarticulation, while amputations through the diaphysis will not stand the test.[2] Nor can it be denied that there are quite a number of people who can walk very well even after an amputation through the diaphysis; but in the greatest majority of these cases thanks is due not so much to the skill of the amputating surgeon, but more to the exceptional skilfulness of the manufacturers of artificial protheses. In spite of this fact, it does not follow that surgery is absolved from all further attempts at improving the operative technic to

[1] Read before the Surgical Section of the New York Academy of Medicine, Nov. 12, 1900.
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[2] Of late Hirsch has published in the *Archiv für klinische Chirurgie*, Band LXI., Heft 3, excellent results obtained by long-continued after-treatment with massage, and active and passive motions; this method is certainly very much in place, when for some reason or other we are compelled to amputate by the older methods.

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such a degree that all stumps should be in a condition to fulfil the imposed requirements. That ability to wear a skilfully-manufactured artificial leg is alone not a desideratum will be acceeded to if the following points are taken into consideration. Artificial legs, as a rule, are compelled to take their support from some point, or points, higher up; in the leg from the head of the tibia and fibula, and in the thigh from the os innominatum, while the stump proper merely hangs loose in a voluminous socket and in reality is used merely

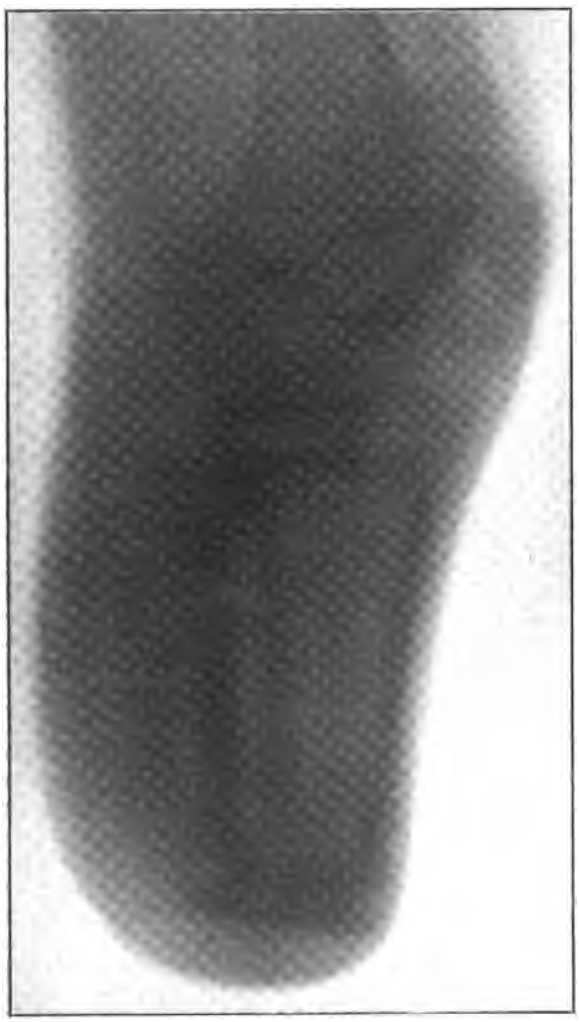

Fig. 1.—Case of Alex. T., osteoplastic amputation of leg.

for propelling the artificial leg and not at all for the support of the body. Another point, while apparently a subordinate one from the surgeon's standpoint, is nevertheless a most important one from the patient's point of view, and this is the perhaps exorbitant cost of a well-made artificial leg. The natural outcome is that we see many of the poorer classes who, because of a stump which cannot give them direct support, or the inability to pay for an artificial leg, are compelled to hobble around on crutches, while if the stump were properly made, these people would with a comparatively cheap "peg leg" become useful to themselves and to the community.

Among those surgeons who readily appreciate the importance which a good supporting stump is to its owner there arose the natural consequence that more of an extremity was sacrificed than was absolutely indicated by the nature of the ailment; this was gained by exarticulations at the joint higher up and also gave rise to the term "amputation at the seat of election;" for instance, upon the leg in its upper third. I believe, with the method to be shortly described, the term will become either obsolete, or will be reserved for those cases in which rapidity in the course of the operation, for manifold reasons, is urgently indicated, as it is undeniable that the formation of a stump by Bier's method will even in the most experienced hands consume a somewhat longer time than the simple amputation by the older methods. In a word, every place above the seat of the disease is a place of election by Bier's method.

It would carry me far beyond the limits of this short communication if I were to attempt to describe or even mention the various improvements and course of evolution in the operative technic of amputation; but, if we admit that the usefulness of a stump and its physiological function are the objects to be aimed at, we must also admit that the most important advance in the technic of amputation is to be credited to the ingenuity of Pirogoff, because it gave an impetus to the subsequent development of other methods; these, like the amputation of Gritti, or the more recent ones of Sabanjeff, Abraschanoff and Scymanofsky, are none the less good, but they are applicable only to special regions, as the knee-joint and elbow-joint; while the underlying principle in all of them is merely the one described by Pirogoff. Surgery appeared to have rested on its laurels and apparently accepted the ills supposedly inherent to amputation-stumps, until Bier developed a practically entirely novel method, applicable to any part of the extremities. Credit, however, is to be given to Bier not only for the introduction of this method, but also, and perhaps to a far greater degree, for the careful and deliberative studies and investigation upon the physiology and pathology of stumps in general, by which he has proven the fallacy of many hitherto faithfully accepted theories regarding amputation-stumps and has paved the way for a long series of modifications and improvements.

The theories hitherto accepted regarding the requirements, the presence of which is absolutely indicated in a stump designed with a view of perfect function, have been manifold, and, although it is undeniable that from a cosmetic point these stumps leave nothing to be desired, their usefulness was so meager that a revision and modification of these theories were not only in place, but were very much indicated. Bier and his collaborators have undertaken this work and, after a careful study and investigation of this subject, extending over ten years, have ably refuted the vari-

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ous theories and left them without any scientific foundation.

1. For a while the volume and thickness of the stump were supposed to be the deciding factors, because it was found that stumps following amputations through the comparatively broader surfaces of the joint ends could stand the superposed pressure better than stumps through the diaphysis; but Bier has proven that this theory is not tenable. He has published cases in which the stumps were perfect in every respect, yet they were no broader than the diaphysis through which they were made, with the only difference that he has closed the medullary cavity by a small osteoplastic flap. On the other hand, everybody has seen stumps with broad bone surfaces (epiphyseal), which were unable to properly functionate, because a thin lamella of the articular surface was sawn off at the time of the operation.

2. A faulty interpretation of the stumps following amputations by the Pirogoff or Gritti method led to the adduction of the hypothesis that stumps gave a good functionating result only when covered by skin which is designed by Nature for exposure and pressure. In reality, we find this to be the case in Pirogoff's amputation, in which the skin covering the stump is taken from the thick skin of the heel, and in the Gritti amputation, in which the flap is formed out of the tough skin covering the patella and tuberosities of the tibia. But that this alone is not the deciding element in the good results of these methods is effectually proven by Bier, who had occasion to observe perfect function in stumps covered by other skin. In one of his cases an excellent stump was obtained, in spite of the fact that the skin flap was formed out of the very tender skin covering the tendo-Achillis. Bier has also shown that even the most tender skin becomes hypertrophied, so as to resemble the skin of the planta pedis, if exposed to use.

3. There are many other theories, too numerous to enlarge upon and all disproven. Of all accepted rules, about the only one to which Bier allows some importance is that the resulting scar must not lie directly over the exposed surface of the stump, although even this is not of sufficient importance to induce him to sacrifice an additional portion of the limb to obtain this result.

It is not at all easy to overthrow rules which have obtained a firm foothold, but it is a far more difficult task to replace them by a more perfect substitute. After a long series of experiments and, for that matter, also failures, Bier has solved this task in admirable fashion by his osteoplastic amputation method to be shortly described. No one who has had the opportunity to compare the two methods will deny the superiority of it. There remained only the proper interpretation of the excellent results obtained. The careful observation of his results has led Bier to lay down the following rule: *The perfect functionating of the stump depends almost exclusively upon the bone. The bone must not expose on its supporting surface a wound. It is therefore necessary to occlude the sawn surface with a periosteal bone flap. When this is impossible, it may be more proper to exarticulate.*"

In the preceding special stress was laid upon the good functional ability of the stump, and one may naturally ask how far the necessity arises for similar more or less complicated methods in amputations upon the upper extremity, or upon the toes and fingers. This question in the opinion of the writer should be replied to emphatically in the *affirmative*. While the physiology of stumps of the upper extremity is of but minor importance, their pathology is fully as important as that of stumps of the lower extremity. Conical stumps, ulcerations, painful neuroses, etc., are just as common in stumps of the upper extremity and of the digits, and if these can be avoided by attention to details it is our duty to give the benefit of it to the patient.

Fig. 2.—Case of Wm. K., osteoplastic amputation of thumb.

Technic.—The evolution of this method is not only interesting, but also very important, as it demonstrates in successive phases the primary fail-

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ures and difficulties, and only after overcoming these did it reach its present stage of, one might say, ultimate perfection. As the first attempts, which were based on a misconstrued conception, have been practically discarded, I do not intend to burden you with their detailed description; those who are interested in the subject will find them described in the earlier publications of Bier.[1] Instead I shall content myself by describing, in as few words as possible, the successive steps of the operation, as given by Bier in his latest monograph on the subject.[2]

As amputation of the leg, in view of its greatest requirement regarding functional ability, is the most important one, and possibly also the most frequent one, I shall confine myself solely to its description. Taking its technic for a prototype, all the other amputations being merely slight modifications, which can be readily adapted to the special limbs to be amputated.

1. A large anterior flap, with its corners rounded, is formed, its base occupying somewhat more than half of the circumference of the leg. While the flap is being prepared, an assistant draws it upward with sharp retractors; this manipulation renders tense the cellular tissue between the skin and the periosteum on the anterior surface of the tibia, which can then be readily divided by slight strokes of the scalpel. With a little care in this manipulation all injury to the skin or the underlying important periosteum can be easily avoided. Although this single large anterior flap is to be preferred, if the nature of the ailment for which the amputation is done permits it, a strict adherence to it is not necessary, and under no circumstance is it justifiable to sacrifice length of the stump to obtain it. One long posterior flap, or one short posterior flap and a somewhat longer anterior flap, will give practically as good results. In a word, any flap formation is applicable, but some care should be taken that the resulting cicatrix shall not lie directly over the stump.

2. The next step is the formation of the osteoplastic flap. To all intents and purposes, it is only in the insertion of this step wherein Bier's method of amputation differs from the other methods, hence considerable weight is to be attached to its execution. The osteoplastic flap is formed by circumcising the periosteum of the anterior surface of the tibia on three sides of a quadrilateral space, the lateral incisions encroaching slightly beyond the anterior and internal borders of the tibia. The edges of the periosteum are raised for a short distance from the bone and a thin plate of bone is sawn out of and parallel to the anterior surface of the tibia. On reaching the base of the periosteal incision, if the construction of the saw is such as to permit it, the teeth are turned anteriorly and the bone flap is sawn through, almost to the periosteum; if no such saw is at hand, a narrow but strong periosteal elevator is wedged into the slit and the flap elevated and broken at its base; if the broken edge is too rough, the jagged ends may be carefully chipped off with a rongeur. Finally, in order to give it more mobility, it is advisable to raise the periosteum for a slight distance upward from the tibia. I experienced considerable difficulty in my cases, as well as in an amputation by the Sabanjeff method, because I did not have a proper kind of saw; and, finally, had to resort to the Gigli saw. Bier has modified Helferich's bow saw, especially for osteoplastic amputations, but I have been unable to procure it at any of the New York surgical instrument dealers; this modification consists of an alteration in the two locks of the saw in such a manner that the saw can be fitted in, both in a vertical and a nearly horizontal position (the latter toward both sides); it is evident that a saw constructed on this principle would materially overcome some of the difficulties of this part of the operation. Although I was able to obtain a very satisfactory flap with the usual Gigli saw, I found it too unwieldy to enable me to do the more or less delicate work required. Recognizing these imperfections, I have constructed a new saw. It is not of a remarkable nature, as it is only an ordinary metal worker's or jeweler's saw frame, while its blade is a piece of a Gigli saw; although perfectly simple in its construction, I have no doubt it will be of considerable value in the sawing-out of the osteoplastic flap, as it enables the operator to use it in any direction that may be called for, and this without being compelled to change it. As yet I have had no occasion to try it, but I purpose to do so at my next amputation.[1]

3. The next step is the ablation of the leg, and the method of doing it depends upon the length of the anterior flap. Presuming it is sufficiently long to amply cover the stump, the ends of the incision are merely united by an incision on the posterior aspect of the leg. After division of the muscles of the calf and of the interosseous membrane, the osteoplastic flap being held upward, some care being taken not to injure it by rough handling, the tibia and fibula are sawn across at the level of the base of the osteoplastic flap. If the osteoplastic flap is sufficiently large to cover the ends of both bones, these are sawn across at the same height; if, however, it is long enough to cover the tibia only, it is best to divide the fibula at a slightly higher level, so as to practically exclude it from the stump formation; otherwise the fibular portion of the stump may become the seat of pathological disturbances.

4. Ligation of the bleeding vessels.

5. The osteoplastic flap is now turned over the divided surfaces of the bones, and its periosteal fringe is sutured to the periosteum of the tibia and fibula, or to fasciæ and tendons, in its proximity.

[1] *Archiv für klinische Chirurgie*, Band XLVI., p. 90; Archiv *für klinische Chirurgie*, Band L., p. 356.

[2] August Bier. Sammlung klinischer Vorträge, Teft 264.

[1] Since writing this article I have had occasion to amputate another leg by this method, and tried to use this saw; very quickly, however, it was apparent to me that in its present state the instrument was altogether too crude in its construction, the objection being that the locks did not grip the saw with sufficient firmness to prevent it from slipping out. I am confident that with a slight modification in the mechanism this objection can be overcome very readily, and I am now at work in improving it.

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6. Suturing of the skin.

While primary union is naturally the ideal mode of healing to be aimed at, it does not necessarily follow that its absence is bound to mar the ultimate result. If working in more or less infected areas, it is quite permissible to make use of the various methods of secondary suture without endangering the flap. I operated on my second patient in this manner, and yet the result is very good.

My experience with this method of amputation is limited to the two cases described in brief as follows:

Case I.—Alex T., sixteen years of age, a druggist's apprentice, was operated upon at Mount Sinai Hospital in 1898 for tuberculosis of the ankle-joint, and was discharged with a sinus on either side of the joint. Patient was readmitted to the hospital January 11, 1900, on which date examination revealed the following local condition: Above the internal malleolus a sinus one and three-quarter inches in depth leading into the joint; a similar sinus over the external malleolus; intense pain and tenderness over the entire joint, the lower third of the tibia and in the tendo-Achillis; considerable swelling and thickening of these structures. He was treated at first with iodoform-oil injections and immobilization. As there was no improvement I resected the tibio-tarsal joint on January 18th, removing apparently all of the diseased area. Subsequent to this operation, as well as prior to his admission to the hospital, the patient was also treated by venous hyperemia (Bier). On March 12th the joint was again examined and more tuberculous tissue removed. From time to time there appeared albumin in the urine, the liver became enlarged, and it was apparent that the patient was developing amyloid degeneration. To obviate this, I was compelled to abandon conservative treatment, and therefore on May 18th I amputated the leg by Bier's method. Patient was discharged June 10th with a slight sinus (caused by the drainage tube) which closed within a few days. The stump is now ideal in every respect; not only is there no pain, but not even the slightest tenderness; and the patient can press firmly against the stump and walk on it on the bare floor without causing him the slightest amount of pain.

The skiagraph of the stump (Fig. 1) taken eighteen days after amputation is very interesting; there is perfect union between the osteoplastic flap and the tibia, but there is no union between the fibula and the osteoplastic flap. Unquestionably it would be better if there were firm bony union here also, but its failure to unite is no drawback as far as function is concerned. Bier published a case in which there was no bony union of either bone, and yet the functional result was perfect.

The second case is unique perhaps inasmuch as, so far as I know, it is the first case of an osteoplastic amputation of the thumb.

Case II.—Wm. K., twenty-five years of age, a butler by occupation, injured with an icepick the dorsal aspect of the interphalangeal joint of the thumb; this was soon followed by suppuration of the joint, for the relief of which an incision was made on the dorsum of the joint; the process, however, continued to grow worse and he was admitted to the hospital August 14th. Immediately on admission, through-and-through drainage of the joint was established, but the joint surfaces and capsule were found to be entirely disorganized. These conditions alone called for amputation, which I performed August 25th by Bier's method. A proper saw was not at hand, hence in the course of the manipulation the osteoplastic flap was denuded of a considerable portion of its periosteum; in spite of this I sutured it to the sawn surface of the phalanx. Secondary sutures were inserted on account of the suppuration and tied three days later. Patient was discharged September 2d with a minute granulating surface. It was some time, however, before the wound closed definitely; a slight sinus persisted, at the bottom of which bare bone was felt for a considerable time, so that on many occasions I despaired of the ultimate result and feared that I would be compelled to remove the bone flap. I was agreeably disappointed when finally firm union took place, without the separation of a sequestrum. The stump, although quite thin in its terminal portion, is now perfect in every respect and leaves nothing to be desired.

The skiagraph (Fig. 2) taken six days after the operation shows distinctly the deep shadow of the osteoplastic flap.[1]

It is hardly proper to draw definite conclusions from the two cases reported, but in view of the undeniably poor functional results by the older methods, Bier's method appeals me to such a degree that I have deemed them worthy of publication. While I do not wish to be premature in my statements, it may be said with certainty that this method of amputation is the operation *par excellence* in all cases, with the exception perhaps of diabetic and senile gangrene.

350 West 58th Street.

[1] Thanks to the courtesy of Dr. A. G. Gerster, I had occasion ten days ago to amputate a leg by this method, for a rapidly growing sarcoma of the great toe. On account of the advanced age of the patient and consequent atheromatosis, there was considerable marginal necrosis of the flaps. I do not know as yet what the ultimate result of the case will be. Its consideration must, therefore, be postponed for the present.

PARASITES IN THE BLOOD.

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OF the true parasites which are found in the general systemic circulation, there are two of great importance. First the *filiaria sanguinis hominis*, causing the disease which we know under the term filariasis. For some time it was believed that this parasite could be found in the blood of an infected person only at night. But it has now been established that there are three varieties of the parasite—the one first described as occurring in the general circulation only at night and hence

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known as the *filaria nocturna*; another found only during the day, *filaria diurna*, and another variety found at any time, day or night, *filaria perstans*.

An interesting anatomical peculiarity has just been observed by Dr. James Ewing of this city in the examination of the blood of a case of filariasis. The peculiar structure noted is a transverse striated appearance, giving much the appearance one sees in an earthworm. This was very beautifully illustrated in a photograph exhibited by Dr. Ewing and Dr. Buxton at the New York Pathological Society meeting October 10th, 1900. Another interesting point in regard to the filaria is the establishment of the transmission by means of the mosquito.

The second parasite we shall consider is the *plasmodium malariae*. Of this there has likewise been determined three varieties, producing, as you know, the three ordinary types of malaria; the tertian, the quartan and the estivo-autumnal, the latter also known as the irregular form and also as the tropical form. What we formerly called quotidian fever does not have the honor of a separate variety of organisms, but is due, we now know, to a double infection with tertian organisms, the two sets overlapping and maturing on alternate days. In the light of the mode of infection which we now know to be true of malaria—infection by mosquitoes—it is easy to understand how this double infection occurs.

As far back as 1850 Virchow saw the malarial parasite. Laveran and Golgi established the correspondence between its life cycle and the clinical cycle of the disease. That is to say, at the end of the apyretic stage of the cycle the parasite has arrived at maturity, and that in the shivering stage the parasite has reached the sporulating stage. During the succeeding hot and sweating stage the spores enter the red blood-cells and the fever comes to an end. This in tertian malaria takes forty-eight hours; in quartan, seventy-two hours. In the tropical form the time of the chill likewise corresponds with the sporulating stage of the estivo-autumnal parasite.

Now, this explains how the parasite maintains its existence in the human body, but does not show how it passes from person to person. Nor does it explain the presence of crescents and of flagellate bodies found in the blood. The presence of these latter bodies have been a puzzle for several years. The relation between these two bodies has been very close, crescents if watched having been seen to have given off flagellæ.

For years it has been suspected that mosquitoes had something to do with malaria, and, strange to relate, even savages in German East Africa, who lived in mountainous, and, therefore, non-malarial districts, noticed that when they went to the sea coast they acquired a fever. They said they were bitten by certain insects—mosquitoes—which they called *Mbu*. They gave the same name *"Mbu"* to the fever which they acquired, thus linking a cause and effect. Peasants in certain parts of Italy believe that the bite of the mosquito may be followed by malarial fever.

Drs. Manson and Ross, of England, working on this theory, were able to demonstrate in the stomach of mosquitoes which had bitten malarial patients flagellæ and spherical bodies. On watching these parasites in the mosquito's stomach, Ross found that they grew from six micromillimeters in diameter to 60 micromillimeters and that they retained the black pigment. And he also found after a large number of dissections from mosquitoes that this change took place only in one variety. Probably it is because the malarial parasite does not continue its development in the bodies of all kinds of mosquitoes that so much difficulty has been met with in establishing the truth of the theory.

It has been found that the parasite, after developing in the stomach of the mosquito, breaks up into small bodies which pass to the salivary glands and thus into the proboscis of the mosquito. The mosquito thus acts not only as the definite host of the malarial parasite, but also as the transmitting agent.

It is not necessary at this time to go into a discussion of the close relationship that people living in malarial districts have often observed between the prevalence of mosquitoes and the prevalence of malaria; that warmth and moisture and low moist places both conduce to malaria and to the breeding of mosquitoes; that protection of the body from mosquitoes by veils, wraps, screens and netting, also protects from malaria; that people going into malarial districts were always warned not to be out after sunset—the time when mosquitoes are particularly active; that the cultivation of the soil both prevents the breeding of mosquitoes in stagnant pools and the prevention of malaria; that wherever we find malaria we find mosquitoes. The converse does not hold true, but this is easily explained by the fact that so far it has only been ascertained that one variety of mosquito is capable of transmitting the disease. Hence we know why, for instance, northern regions are non-malarial, although explorers have found swarms of mosquitoes there.

The two celebrated yet simple experiments of Dr. Manson of London, which have now just been completed, leave no longer any ground for the most skeptical individual to stand upon.

Experiment No. 1 was as follows: From Rome he had mosquitoes which had bitten a patient suffering from tertian malarial fever, as demonstrated by a careful examination of the blood, sent to London where they were then allowed to bite a previously perfectly healthy individual—Dr. Manson's son. Here are the words of the patient: "I am twenty-three years of age. I was born in China, but have lived in this country since I was three years old and have never been abroad since, nor in any district in this country reputed to be malarial. I am healthy." Between August 29th and September 12th the young man was bitten many times by the mosquitoes thus obtained. On September 13th he began to feel languid and out of sorts and his temperature rose to 99° F. At mid-day he felt chilly and inclined to yawn.

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At 4.30 p. m. he went to bed with severe headache, pain, in the back and bones, and a temperature of 101.4° F. On the following day temperature was 100° to 102° F. Patient had anorexia and an exaggeration of symptoms of the day before. September 15th he awoke feeling better, but at 2 p. m. felt chilly and at 4:30 his temperature was 103.6° F. At 9 p. m. diffuse sweating set in. September 16th temperature became normal. September 17th, temperature was 99° F. in the morning, but at 2 p. m. he had a chill and at 5 p. m. the temperature was 103° F. followed by sweating, and at 9 o'clock the temperature had fallen to 99.2° F.

Examination of the blood showed many tertian parasites. The edge of the spleen could be felt on deep inspiration, and there was a slight feeling of discomfort in this region. He was then given ten grains of quinine and the following day ten grains more and five grains every eight hours. No more parasites were found after 5 p. m. of this day. September 19th, temperature normal and appetite had returned. September 25th in good health, no recurrence of malarial symptoms.

Experiment No. 2 was as follows: A wooden hut constructed in England was shipped to the heart of the malarial district of Italy, where the permanent inhabitants all suffer from malarial cachexia and where the laborers who come from healthy parts of Italy for harvesting purposes all contract fever. The only precaution taken by the experimenters who lived in the wooden hut was to have the windows and doors most carefully screened and their beds protected by mosquito netting. During the day they went about as others, but were always careful to be indoors from sunset to sunrise. From early in July until September 21st, they have enjoyed perfect health, while their neighbors in marked contrast were all either ill with fever or had suffered with severe malarial attacks.

You will be interested now in knowing the distinguishing characteristics of the mosquito which carries the infection. It is of the variety known as *Anopheles* and differs from the more common variety of mosquito known as *Culex*, by the following peculiarity. Its palpi are about as long as its proboscis, while in the *Culex* the palpi are very short. In the resting stage the *Anopheles* projects at right angles from the surface while the *Culex* holds its body parallel to the surface. Another distinguishing point is that the *Anopheles* holds its beak and body in one line while the *Culex* holds its beak and body at angles with each other, thus giving a humpbacked appearance. The larva can be distinguished in the pools of water by the fact that the body of the *Anopheles* larva is parallel with the surface of the water, while that of the *Culex* hangs with the head downward.

Too much credit cannot be given to the work of Dr. Manson in proving his theory, and it only remains to destroy as far as possible the breeding of the *Anopheles* mosquito to render malarial districts habitable.

GENERAL REMARKS ON THE COMBINATION OF ETHER (57 PARTS) AND CHLOROFORM (43 PARTS), KNOWN AS THE M. S. MIXTURE.

By EDWARD ADAMS, M.D.,
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THIS article is based upon three hundred narcoses induced by the author and deals chiefly with the practical personal observations made by him. Little claim to originality is made, for most of these observations have been made before, and it is intended to relate the experience of a hospital interne as briefly as possible.

The following subdivision of the subject seems most practical: (1) Preparation of the narcotizer. (2) Preparation of the patient for anesthesia in narcotizing-room. (3) Choice of anesthetic. (4) Stages of anesthesia. (5) Conditions influencing anesthesia, such as (*a*) heart-action, (*b*) respiration, (*c*) vomiting, (*d*) position of patient, (*e*) accidents during anesthesia (*f*) concluding remarks, under which head the after-treatment should be considered and also the emergencies occurring at this time and their methods of treatment.

1. *Preparation of the Narcotizer.*—In operations about the head, face or neck it is well to allow an assistant to give the anesthetic until the operative field is thoroughly scrubbed and prepared for the surgeon. In the meantime the anesthetist should disinfect his hands thoroughly and put on a sterilized gown. A sterilized mask should be prepared and the bottle containing the anesthetic covered with a sterilized towel. Plenty of towels, a mouth-gag in good working order, a pair of tongue forceps, a soft sponge on a long, steel sponge-holder, several hypodermic syringes and solutions of camphor, strychnine, digitalis, spartein, atropine, whiskey, nitroglycerin and amyl nitrite should be in readiness.

2. *Preparation of the Patient.*—It is understood that the patient has been properly prepared for anesthesia. Before beginning to administer the anesthetic, false teeth (if the patient wears them) should be removed. Do not leave this to the orderly or nurse; see to it yourself. Examine carefully the patient's heart, as well as the lungs, and look at the eyes to see if there is an artificial one present. If so, have it removed. Previously the urine should have been examined for albumin and casts. All bandages should be loosened. Apply vaseline on the cheeks, chin and nose, and you are then ready to begin the anesthesia. See that the room is quiet, do no more talking than is absolutely necessary, tell the patient that you are going to administer the anesthetic very slowly and then pour a few drops on the mask, at first holding it at some distance away from the face and gradually bringing it closer and closer. Talk to the patient in a low, impressive tone and try, if possible, to gain his confidence, for this will greatly help you in your work.

3. *Choice of Anesthetic.*—As a rule, chloroform is chiefly to be preferred (*a*) in renal disease, (*b*) in pulmonary disease, (*c*) in obstetrical cases, (*d*)

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in children, (*e*) in old patients, (*f*) in alcoholics, and (*g*) in operations about the head. Ether is usually given by preference when extreme prostration exists and in cardiac cases. Personally I know of no contra-indication to the use of M.S., for there have been patients here to whom neither ether nor chloroform alone could be administered, but in whom this combination gave admirable results.

4. *Stages of Anesthesia.*—The stages of stimulation and excitement quickly merge into one another, sensibility being slowly impaired and reflex action continuing. At about this time some of the patients become violent, this being especially marked in alcoholic and very robust patients. To patients giving an alcoholic history I have made it a practice to give 8 minims of Magendie solution at least half an hour before anesthesia, and it is really surprising how quietly they take the anesthetic. At the stage of excitement some patients begin to vomit, and when this is the case it is best not to crowd the anesthetic. Allow them to vomit; in so doing they will partly come out, but afterward they seem to go under more quickly. At this stage the muscles are quite rigid, the face is livid and the pulse and respiration are increased in both frequency and force. As soon as the excitement and struggling have passed the patient goes into the stage of anesthesia in which nearly all the reflexes are abolished except those of the involuntary muscles. As a sign of relaxation I generally rely upon the muscles of the arm in flexion in order to see if any stiffness is present. It has also been my experience that a patient is not thoroughly anesthetized until the muscles of the jaw are completely relaxed. If at this point the anesthetic is still further administered, the patient will go into collapse, this being evidenced by the cyanosis of the finger-nails and later by that of the mucous membranes; respiration will become slow and shallow, the pulse feeble and slow, at times stopping suddenly without warning; the pupils become dilated and do not react to light, and unless prompt measures for resuscitation are taken death ensues.

No one sign can be relied upon as to how deeply the patient is under the anesthetic; the reflexes in connection with the pulse and respiration must be considered together, for I have seen cases in which the patients have been deeply under the influence of the anesthetic and in which the eye reflexes were present and others in which the patients were hardly under although no reflexes were present. If morphine is given before the operation it will cause a contraction of the pupil. If the pupils are dilated do not think that the patient is deeply under, for sometimes the pupils suddenly become dilated when vomiting is about to set in. If you are in doubt as to the condition present the pulse and respiration will act as guides. If the patient is deeply under the pulse will be slow and regular, as a rule, and the respiration somewhat slow and shallow. If the mask is now removed for a few minutes, it will be noticed that the pupils will contract at once, the pulse become stronger, and respiration stimulated. If, however, the pupils are dilated because the patient is not under control, and if in connection with the dilated pupils there is a corresponding increase in rapidity of both pulse and respiration, with spasmodic contraction of the diaphragm and attempts at deglutition, all of which signs predict vomiting, the anesthetic should be crowded. If, however, vomiting is inevitable, the mask should at once be removed, the patient's head turned to one side, and the mouth wiped with a towel. At times it will be necessary to let the patient come entirely out. Of course, such an occurrence is very annoying to the operator, as he cannot proceed until the patient is again under the influence of the anesthetic.

In regard to heart-action and pulse, as a rule, I place a finger on the radial artery before the anesthetic is administered in order to determine the rate, quality and characteristics of the pulse. At this stage the pulse is generally quite rapid, forcible and slightly irregular, as the result of excitement or nervousness. This is the case until the stage of anesthesia is reached, at which time the pulse becomes slower and more steady. If the anesthetic is administered beyond this stage signs of cardiac failure will be evidenced by a weak, rapid, fluttering, irregular pulse. If the patient shows signs of cyanosis, remove the mask for a moment or two. The color will at once reappear and there will be a marked improvement in the character of the pulse. The following conditions will cause an increased pulse-rate: (*a*) When the patient is about to vomit; (*b*) during dilatation of the sphincter ani muscle; (*c*) in operations about the stomach or intestines; (*d*) after the loss of a large amount of blood; (*e*) when the patient is recovering from the operation. A decreased pulse-rate is noted under the following conditions: (*a*) In operations about the face or neck; (*b*) removal of a large abdominal tumor, as shown by the evacuation of the contents of an ovarian cyst or removal of a large fibroid tumor; (*c*) in hernia operations from pressure on the spermatic cord or testicle; (*d*) when the patient is about to go into collapse.

Always place your finger on one of the arteries during the operation in order to watch the pulse. It is a matter of personal preference which vessel is selected. Usually the facial, temporal, carotid or radial is chosen. Personally, I prefer the first-mentioned, although there are times when the pulse cannot be well felt at the facial, but it is very good at either one of the other arteries. From time to time the pulse should be noted at one or other of the vessels, in addition to the one you constantly have under observation. As a rule, the pulse averages about 70 during the operation, but any of the conditions named heretofore may cause it to be as rapid as 150 or as slow as 40 per minute.

As to respiration, when the anesthetic is first administered this may be quite rapid, as most patients are afraid to breathe naturally, thinking that they will go under more rapidly if they do not

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do so. According to my observation, this is a mistake. I usually ask the patients to breathe in normal manner. When they are half under the influence of the anesthetic the respirations are short and rapid, and the nearer the approach to the stage of anesthesia the more steady and slow they become. If now the narcosis is still further pushed, the respirations become slower and more shallow and finally cease. Always try if possible to keep the patient's head to one side and keep the lower jaw well forward, this being easily accomplished by placing two fingers beneath the angle of the jaw and throwing it forward. This will prevent the tongue from dropping backward and thus obstructing the air-passage. If the patient does not breathe well, place the mouth-gag in position and draw the tongue forward with the forceps. If there seems to be either mucus or vomitus obstructing the air-passage, use the sponge on the sponge-holder and try to keep the pharynx clear of any foreign bodies. Increased respiratory movements usually show that the patient is coming out, but, then, the respirations may be stimulated reflexly from some manipulation of the peritoneum, intestines, or stomach. When the respirations become slow and shallow, remove the mask and if the patient is not under too deeply the respirations will be at once stimulated. On the other hand artificial respiration may have to be resorted to and Sylvester's method is the one to be preferred. Stertorous breathing can be overcome by removing the mask for a moment or two, but sometimes in very stout people with short necks, and in operations about the face or neck in this class of patients, the snoring and disagreeable respiration will persist throughout the entire anesthesia, no matter what means may be taken to overcome the same. Certain positions also seem to influence the respirations, the most common being the Trendelenburg and nephrotomy positions.

The accidents which may occur during anesthesia are asphyxia and cardiac failure. The former has already been dealt with, but I may add that sometimes a few drops of amyl nitrite will have a stimulating effect. Possibly tracheotomy may have to be resorted to, but this is not often necessary. Cardiac failure usually occurs as a result of too deep an anesthesia. The premonitory symptoms are extreme pallor, sudden wide dilation of the pupils, cessation of respiration, pulse at first very rapid, finally becoming imperceptible. The anesthesia should at once be stopped, the foot of the table raised, and artificial respiration should be performed at once. Hypodermic injections should be freely given and for a rapid stimulant of the pulse I do not believe there is anything better than 20 minims of a 25-per-cent. solution of camphor ether, as this acts almost instantly. At least two or three of these injections should be given, as well as 10 minims of a 1-per-cent. solution of strychnine, nytroglycerin, digitalis, whiskey, caffeine, camphor and spartein can also be used. If necessary an intravenous infusion of salt solution may be given. This is used at a temperature of about 120° F.; from 800 to 1500 c.c. may be given. I do not believe hot rectal injections are of much value for rapid stimulation, but shall dwell upon this subject later.

As soon as the operation is over, the patient should be placed in bed. This should be previously warmed and, if not, hot-water bags should be placed about the legs and thighs. At this time a hot rectal injection is very beneficial. This usually consists of 8 ounces of salt solution and 2 ounces of whiskey, the former given to quench the thirst, the latter for the stimulating effect. If necessary this should be repeated in six hours. If the patient is suffering from shock he should be treated in the manner described heretofore. Magendie solution, in small doses, may be given to relieve pain. In order to prevent asperation the head should be turned to one side and the jaw kept well forward. The time for the restoration of consciousness varies, the average being about twenty minutes; during this time the patient should not be left alone.

Do not under any circumstances crowd the anesthetic because you are told to get the patient under immediately; take your time, even if it annoys the operator. It usually requires from six to twelve minutes to get a patient under. Alcoholics require a longer time—in fact, I have seen some who could hardly be kept under the influence of anesthetic at all. Of course, such a narcosis will be very disagreeable to the surgeon, but always remember the fact that the welfare of the patient is in your hands. Always be on the lookout for danger-signs and do not be afraid to inform the operator if anything goes wrong. Speak right out in a clear, forcible tone and state to him the exact condition present.

Do not place too much dependence on any one sign. Take in the general condition, the nature of the operation, its duration, and how the patient is bearing it. Above all, do not lose your head. Keep cool and work quietly and rapidly. If any accident should occur inform the surgeon at once. Be careful in anesthetizing infants and very old people, for cardiac failure comes rapidly, with little or no premonition.

Brief Summary.—The chief advantages of M. S. are the following:

1. Stage of excitement and struggling are not marked.
2. It requires a short time to get a patient under, five or ten minutes.
3. Very little of the anesthetic is required. On an average about 40 c.c. are used an hour.
4. It is a comparatively safe anesthetic.
5. It is very pleasant to take.
6. The after-effects are not marked.
7. Patients recover quickly.
8. It can be used in nearly every condition in which either chloroform or ether is employed.

Sale of Horse-Meat Forbidden.—The Board of Health met this week and by a unanimous vote prohibited the future slaughter of horses in this city and the sale of meat from all such animals.

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A REPORT OF SOME CASES OF ABDOMINAL SURGERY, WITH REMARKS ON THE DIAGNOSIS OF CARCINOMA OF THE CECUM AND THE SURGICAL TREATMENT OF CARCINOMA OF THE LIVER AND THE GALL-BLADDER.[1]

BY CHARLES GREENE CUMSTON, M.D.,
OF BOSTON, MASS.

THESE remarks might be more properly entitled a "potpourri" of surgical subjects and the only excuse that I have for offering them to this Society is that at the present time we are far from knowing all that there is to know about a number of affections of the various abdominal viscera and how far they may be dealt with surgically. The lesions of the abdominal viscera are in many instances an unknown quantity until the abdomen has been opened, and oftentimes the diagnosis made before laparotomy is done is most uncertain. The various manifestations of tertiary syphilis affecting the abdominal viscera are as yet very imperfectly known, and I believe much remains for surgery to find and to deal with in the abdominal manifestations of this universal and protean affection.

Case I.—Mr. B. S., aged forty-one years; married; the father of four children, two of whom died at birth, while the two living ones, who are the last of the series, are healthy to all appearances. The personal and hereditary antecedents of the patient are without interest. He denied having had syphilis, and he gave no evidences of overindulgence in alcohol. About three months before I saw the patient, he had become suddenly jaundiced, and after a short time pain was complained of in the right hypochondriac region, as well as in the right shoulder-blade. By palpation the border of the liver could be made out extending about four fingerbreadths below the ribs, and reaching over toward the median line. There was a slight amount of ascites, and the patient had lost ten or twelve pounds in weight since the commencement of his illness. There was no edema of the lower extremities and at no time had there been melena or hematemesis.

A careful examination of the other abdominal viscera, as well as of the heart and lungs, failed to reveal any other abnormal condition present. A careful search for enlarged lymphatic glands in the axilla, groin, supraclavicular region, or in the neck, proved negative. The diagnosis of malignant disease of the liver or gall-bladder was made, and an exploratory incision was advised and accepted.

An incision was carried along the outer border of the rectus muscle over the growth, and the enlarged liver was exposed after breaking down numerous friable adhesions that it had contracted with the parietal peritoneum. The liver was very hard to the feel, and two nodules about the size of English walnuts projected from the anterior surface of the right lobe near its border; their contour was regular, and their surface somewhat nodular; in color they were lightish yellow. There was no evidence of carcinoma of the liver, gall-bladder or peritoneum. An incision was carried across both nodules, and a large amount of cheesy matter removed, leaving two rather clean-cut, cup-like cavities in the liver. These cavities were packed with gauze and the abdominal wound was closed excepting at the upper part which gave exit to the drains. These were removed at the end of four days and the abdominal wound remaining closed rapidly by granulation.

The patient was placed on iodide of potassium, four grams a day; as his stomach withstood the iodide perfectly, he was kept on it for three months and a half. The jaundice completely disappeared after about five weeks of treatment with the iodide, and at the end of three months the liver had decreased in size so that it could no longer be made out by palpation or percussion beyond its natural limits. The patient has been under observation ever since, now a period of eighteen months, and has remained perfectly well. This is clearly a case of gummata of the liver, but I have never been able to make the patient admit that he had suffered from syphilis.

Case II.—Miss X., aged nineteen years; referred by Dr. Charles W. Knowlton of this city. A year previous to our seeing the patient, she had suffered from a typical attack of gall-stone colic, with all the characteristic symptoms of yellow skin and conjunctiva, clay-colored stools, anorexia and severe pain in the region of the gall-bladder. She made a good recovery after a few weeks of treatment, and, although the calculi was searched for in the stools, none had ever been found.

We saw the patient during a second attack of jaundice and pain in the region of the gall-bladder in May, 1897. At this time the skin and conjunctiva were deeply jaundiced. Anorexia was almost complete, the stools were white, and the tongue thickly coated. Pulse 60 per minute; temperature 36.5° C. (97.7° F.). The patient was a very slightly-built girl, and by palpation of the abdomen the presence of a large globular tumor in the right hypochondriac region, which might be about the size of a large grape fruit, was made out. This tumor was extremely sensitive to pressure. A diagnosis of a gall-bladder filled with calculi was made, and this diagnosis was concurred in by Dr. David W. Cheever and Dr. Edgar Garceau who saw the patient.

After a preparatory course of medical treatment extending over two weeks, the patient was operated upon. An incision parallel with the outer border of the rectus was made, and when the peritoneum was reached, what appeared to be the fundus of the gall-bladder was distinctly felt adherent to the serous membrane. The latter was picked up and carefully incised to the extent of about four centimeters, and when this opening had been made it was found that the supposed gall-bladder was adherent to the peritoneum over quite an extensive area. The organ was carefully separated from the peritoneum by breaking down

[1] An address delivered before the Cheshire County Medical Society, Keene, N. H., Oct. 9, 1900.

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the adhesions all around the edges of the incision, but as the organ was nicely walled from the peritoneal cavity it was found unnecessary to pack the incision with gauze. The aspirating-needle was slowly introduced for about three or four centimeters, but did not come into contact with any calculi, and a vigorous use of the aspirator did not withdraw a single drop of fluid. Several attempts were made, but no gall-stones were encountered by the needle, and nothing but a little dark blood would come away when the latter was withdrawn.

Not being able to account for the condition of affairs present, the adhesions between the organ and the peritoneum were broken down, and, when the hand could be introduced into the free abdominal cavity, our surprise was great when we found that there was a large mass the size of a fetal head extending from the under surface of the liver and dipping down well into the pelvic cavity. The surface of this mass was very nodular and hard. Raising up the borders of the incision with a broad retractor, the cavity was inspected and a small gall-bladder was seen in its normal position. The supposed gall-bladder was a large carcinomatous liver, and, as a radical operation was out of the question, the abdominal wound was immediately closed. The patient died shortly after the operation, but unfortunately no autopsy could be obtained.

Case III.—Mr. S., aged thirty years; married; seen in consultation with Drs. George W. Clement and L. H. Guptil, when the following history was obtained. The patient had always been well up to the time that he contracted typhoid fever about six weeks before we saw him, and for which he had been attended by Dr. Guptil. The fever had run its usual course, but when convalescence was about to take place the temperature, which had been gradually reaching the normal, went up after the patient had complained of a sudden pain in the right iliac fossa which had occurred after an enema had been administered to unload the large intestine. This sharp sudden pain was not of long duration, and at the time of its occurrence neither pulse nor temperature seemed to be affected, and there were no signs of intestinal perforation nor of collapse.

A few days after this attack of pain the temperature began to go up, and the patient complained of some pain in the right iliac fossa. Dr. Clement, who then saw the patient, found a mass in the iliac region which he diagnosticated as an abscess, probably starting from the appendix. The patient was etherized and an incision over the most prominent part of the tumor was made, and when the peritoneum was reached a large amount of pus was evacuated. The cavity was explored and seemed to be well limited, so that no attempt to find the appendix was made. Drainage-tubes were inserted and after about two weeks' time all discharge had stopped and the wound had closed nicely.

About three weeks after the operation for the iliac abscess, the patient, who had been doing nicely, began to complain of pain in the region of the gall-bladder and in the right lumbar region, and, as the temperature was going up, my opinion was asked for. Examination showed a tall, blond man, with a very hectic appearance. There had been on several occasions a slight hemorrhage from the gums. The tongue was covered with a white fur and the skin and conjunctiva were very slightly jaundiced. The patient presented all the aspects of one suffering from a low form of sepsis. The temperature was 38° C. (100.4° F.) and there was a weak wiry pulse of 110 to the minute.

Abdominal palpation showed a large mass in the region of the liver and which could be better felt by placing one hand in the lumbar region and the other over the anterior abdominal wall. This mass appeared to give rise to a slight sense of fluctuation and appeared to be rather globular in shape. On pressure the patient complained of much pain in the region of this tumor. In my opinion one of three conditions was present, which I named in order of probability, *viz.*, an abscess of the liver, empyema of the gall-bladder, or pyelonephrosis. Exploratory incision was advised in order to evacuate the pus and, believing that it was the liver that was most likely involved, a buttonhole was made over the most prominent part of the growth in the anterior abdominal wall. When the peritoneum was reached it was found that the tumor had contracted intimate adhesions with the serous membrane, and after these had been broken down sufficiently to allow the finger to be introduced, it was found that the liver was adherent everywhere.

The adhesions were broken down and the abdominal cavity was explored. The tumor was the greatly enlarged right lobe of the liver, the gall-bladder could not be found, while the right kidney, which was normal in size, had been pushed down into the pelvis by pressure from the enlarged liver. The external aspect of the liver was perfectly normal as to color; by carefully palpating it no distinct point of fluctuation could be made out, but while doing this a few drams of thick pus escaped, but we were unable to trace its origin. An aspirating-needle was inserted into the most prominent part of the liver in several directions, but no abscess cavity could be located. After careful exploration for pus, none being found further than the small pocket which was evacuated and of which we have already spoken, the cavity was packed with gauze and part of the abdominal incision closed.

The patient survived forty-eight hours. At the autopsy the following condition of affairs was discovered: In the right iliac fossa a large abscess cavity was found at a point where some of the small intestine was adherent to the parietal peritoneum. This abscess cavity, which contained about 150 c.c. of greenish-yellow pus, did not seem to have any connection with the abscess which had been opened three weeks previously by Dr. Clement. The right kidney contained several infarcts. The liver was enlarged considerably and had contracted adhesions with the stomach, large

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intestine and parietal peritoneum. It was light brown and greasy. The right lobe of the liver, which had been explored with the aspirating-needle during the operation, was found to contain a well-formed abscess about the size of a lemon near its free border, but which was distinctly in the midst of the parenchyma of the organ, as much as two centimeters of liver tissue surrounding it on all sides, and no indication of its presence either by the color or tumor on the surface of the liver could be found. It is very probable that this abscess was in a miliary state at the time of the operation and it developed rapidly, because, were it otherwise, pus would have been withdrawn from it when the needle was introduced. No other trace of abscess formation could be found in the liver although carefully searched for. This case is particularly interesting in point of view of diagnosis and is a pathological rarity, inasmuch as pyemia following typhoid fever is of rather rare occurrence, particularly the location of pus in the liver.

Case IV.—Mr. B., aged twenty-eight years; single; was referred to me by Dr. Ernest Burden of Brookline with the following history. In the early part of November, 1899, the patient began to complain of a general weakness, and at the same time an alternating constipation and diarrhea supervened. After a week or so, he was obliged to keep his room, the diarrhea and constipation becoming very troublesome. Anorexia was marked, the tongue thickly furred, and the temperature ranging between 38.5° C. (101.3° F.) and 39° C. (102.2° F.). The patient gradually lost flesh during this illness until he had lost forty-seven pounds. Things continued pretty much the same until within a week before I saw him, at which time his physician noticed a large tumor on the left side of the abdomen and to which his attention was called by the patient who experienced a sensation of fulness in the abdomen and what he described as prickly pains.

In September, 1899, I had operated on this man for a large congenital inguino-scrotal hernia, doing a Bassini's operation. The hernia was composed entirely of omentum, and at the time of the operation about a pound and a half was ligated and removed. The patient made an uninterrupted convalescence and a very satisfactory result was obtained. At the time of operating for the hernia he was a very healthy man and presented no other pathologic condition.

The patient first felt the fulness one morning; as he arose from his bed he felt a weight at the site of the operation and placing his hand there found that a small bunch was protruding through the inguinal canal.

I saw the patient the latter part of December, 1899, about eight weeks after the commencement of his present illness. He was pale, the complexion rather sallow, the tongue thickly coated, and a temperature of 38° C. (100.4° F.). The pulse was regular, full and 78 to the minute. Examination of the abdomen revealed a globular mass completely filling up the left half of the abdomen; its surface was very slightly lobulated and was somewhat tender on pressure. There was complete dulness on percussion from the costal border down into the iliac fossa on the left side. No enlarged lymphatic glands could be discovered at any of the usual regions. The urine was dark colored and had a specific gravity of 1021.

My diagnosis was a probable sarcoma of the left kidney, but, being somewhat in doubt as to my diagnosis, Dr. A. M. Sumner kindly saw the patient in consultation, and he rather inclined to a diagnosis of primary tuberculosis of the spleen. We, however, agreed that an exploratory incision was justifiable, and the patient was admitted to the hospital.

A small buttonhole incision was made over the most prominent part of the tumor, and when the peritoneum was reached it was found intimately adherent with the mass. A small piece of the growth was excised and submitted to a pathological examination. The report of the pathologist returned to us was that it was a typical specimen of myxosarcoma, but of what organ it was impossible to say.

On the strength of the pathological diagnosis I concluded that my diagnosis of renal sarcoma was correct, and I accordingly advised the removal of the kidney which was accepted by the patient. Two days later a long incision, measuring about 35 centimeters, was made over the tumor. We broke down the adhesions and while working toward the median line, the hand suddenly entered the general peritoneal cavity. Words can hardly convey to the mind the condition of affairs that was present. The intestines, both large and small, were all matted together in a dense, cheesy tissue, which was rather friable and when handled gave rise to a considerable venous hemorrhage which it was rather difficult to control. A careful exploration decided very quickly that nothing could be done for the patient's relief and the abdominal wound was closed.

To make a long story short I would say that the patient progressed nicely after the operation and that the wound closed perfectly. His appetite improved and his bowels became more regular. Believing that I was dealing with a diffuse syphiloma of the intestines, I decided to place the patient on iodide of potassium in large doses, and this was begun nine days after the operation. When the dose reached four grams of iodide daily, the patient rapidly improved, so that at the end of two months no trace of tumor could be detected within the abdomen. He slept well, ate ravenously, and six months after the operation weighed 159 pounds, which was a gain of 49 pounds.

In closing the history of this interesting case, I would say that in speaking with the pathologist who examined the specimen he told me that the possibility of tuberculosis was out of the question, and that, although this specimen examined microscopically represented a perfect type of myxosarcoma, there was no doubt in his mind but that he was in error and that the lesion was syphilitic.

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Case V.—A young man, aged twenty-one years, who was active in athletics at his college, was taken sick as follows. The afternoon before he had taken unusual active exercise in the gymnasium, ate a hearty meal, and retired early feeling perfectly well. Upon awaking the next morning he complained of a severe pain in the right iliac fossa which confined him to his bed and increased in severity as the day went on. His family physician, of homeopathic persuasion, saw him late in the afternoon and found a pulse of 110 and a temperature of 39° C. (102.2° F.). The usual treatment for acute appendicitis was apparently given here, namely, ice-bags to the iliac fossa and immobilization of the bowels by opium. The next morning the condition of affairs was practically the same, but the patient, who had had a severe chill at about five o'clock in the morning, complained of considerable pain in the left side of the abdomen.

By night the boy's condition had become considerably worse. He was vomiting a bile-colored liquid and the body was covered with a cold perspiration. Being alarmed by his condition, the family desired a surgeon, but as the request was laughed at by their physician, the latter was discharged from the case and I was summoned.

Fig. 1.

Diagrammatic figure illustrating case of gangrenous appendicitis, with metastatic abscesses on left side of abdominal cavity.

On examination I found a well-built young man presenting all the classical symptoms of an acute septic process within the abdomen. Examination showed a large tumor in the right iliac fossa and another one about the size of a fetal head in the left side of the abdomen midway between the crest of the ilium and the border of the false ribs. Diagnosis of perforating appendicitis with secondary abscess formation within the abdomen on the left side was made and operation was advised and performed an hour later. We opened the right iliac fossa by an incision carried over the most prominent part of the tumor and parallel with Poupart's ligament. A large amount of pus and fluid feces escaped, and the abscess cavity was thoroughly washed out with peroxide of hydrogen. We next turned our attention to the mass on the left hand side of the abdomen over which, in its most prominent part, we made an incision parallel with the border of the rectus muscle to the extent of about ten centimeters. When the peritoneum was reached we found the omentum closely adherent to it, and breaking through this we entered an abscess cavity situated between two intestinal coils.

By carefully exploring the parts with the finger a number of adhesions were broken down, each one walling off a small abscess pocket; some ten or twelve abscess cavities were evacuated, care however being taken not to break into the general peritoneal cavity. Three large drainage-tubes were then introduced in different directions. The cavity in the right iliac fossa was also drained. When inserting the tubes the appendix was seen at the bottom of the wound pointing directly downward toward the bladder and adherent to the surrounding bowel; it was peeled out from its bed and removed without any very great difficulty. The patient made an uninterrupted, though slow, recovery, and at the present time, thirteen months after the operation, is in excellent health.

I interpret this case as being an acute gangrenous appendicitis due to torsion of the appendix during violent physical exercise. I have met a number of cases of appendicitis occurring in young athletic men in robust health, and almost all of them were of the fulminating variety, so that now I always advise immediate operation regardless of the symptoms present in this particular class of cases of appendicitis, and I have never yet had cause to regret it, as in every instance the appendix was sloughing and ready to break down even as early as twelve hours after the commencement of the pain. This, however, is the only example of secondary abscess formation within the abdomen due to an acute suppurating appendicitis with which I have met, with the exception of the liver.

(*To be Continued.*)

MEDICAL PROGRESS.

Management of the Breast During Lactation. The lack of cleanliness in caring for the nipple is responsible for nearly all cases of infection and abscess of the breast. C. S. BACON (*N. Y. Med. Jour.*, Jan. 12, 1901) advises that the nipples be washed with clean water before nursing and with 75-per-cent. alcohol after nursing. They should always be protected by clean dressings, and handled with sufficient care to avoid any abrasions. When wounds occur shields are of great value, but they should be large enough to cover the areola and cause no pinching of the nipple. Alcohol seems to be the best antiseptic

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to apply to the abrasions. When the first symptoms of infection have appeared, nursing from that breast should cease and the breast should be supported and put at rest by a proper bandage. A circular bandage may be sufficient if the breasts are held upward and inward toward the median line. The application of an ice-bag is an important adjuvant to the treatment of an infected breast. If pus is suspected a hypodermic needle may be used to determine its presence and it should be evacuated as soon as it is discovered under a local o. general anesthetic.

Coxa Vera.—This condition consists of a deformity of the upper epiphyseal region of the femur, owing to which the head of that bone sinks to a lower level than normal, even in extreme cases almost touching the lesser trochanter. During the last twelve months W. E. BENNETT (*Birmingham Medical Review,* Dec., 1900) has had four cases of this disease come under his observation, and he reports them in detail. The writer gives a history of the literature on the subject, which shows that of ninety cases reported by various observers, sixty-eight were of the male sex. Bennett classifies coxa vera, according to the age of the patient, as follows: (1) Congenital; (2) childhood; (3) adolescence; (4) adults—osteomalacia. He considers only the coxa vera of adolescence which has been subdivided, according to the signs and symptoms, by Hofmeister into three groups, thus: (*a*) Characterized anatomically by downward displacement of the head of the femur and elevation of the great trochanter above Nélaton's line, the only signs being shortening of the limb and prominence of the great trochanter and the only symptoms more or less pain at the hip-joint and limited power of abduction, together with a slightly limping gait. (*b*) Has all the characteristics of group 1, plus a diminution of internal rotation, due to the curving backward of the head of the bone, the limb being generally slightly everted. (3) Has all the characteristics of group 1, plus diminished external rotation, due to the head of the bone being curved forward, the foot and limb being generally inverted. The writer discusses the etiology, age of onset, the signs and symptoms, the diagnosis and prognosis of the disease, and says that in treatment there are the three following indications: (*a*) The general condition upon which depends the softening of the bone; (*b*) the pain, and (*c*) the deformity. Rest quickly does away with the pain, and also checks the advance of the deformity, the body weight being removed. When the deformity is very marked, subtrochanteric osteotomy of the femur or cuneiform osteotomy of the neck of the bone may be done. In very few cases, however, does the writer think that operative procedure will be necessary, because of the extent of the relief his patients obtained from rest in bed. Bennett believes that a diagnosis is absolutely impossible without the use of the Roentgen rays.

A New Method of Herniotomy.—A. L. DENTU (*Revue de Chir.,* Dec. 10, 1900) states that for the last twelve years he has performed the method of operating for the radical cure of inguinal hernia detailed as follows: The aponeurosis of the external oblique muscle is exposed through the same incision as in the Bassini operation and then cleaned up very carefully. The sac is sought among the tissues of the cord distal to the external ring and dissected out by any procedure of choice. Then, within the inguinal canal, without slitting up its anterior wall, by traction and dissection the balance of the body and the neck of the sac are freed into the internal abdominal ring. Just lateral to the site of this ring a small incision, about a centimeter long, is made through the external oblique aponeurosis in the direction of its fibers. Through this hole a special forceps is passed bluntly tearing its way into the upper extremity and along the course of the inguinal canal as far as the external ring. Here it sizes the fundus of the sac and draws it upon itself upward and outward through the little hole. At this point the neck may be twisted and doubly ligated or transfixed and ligated, the fundus cut away and the stump returned to the internal ring or included in the mattress sutures which close the little incision. The redundancy of the anterior wall of the canal is corrected by making a fold in it parallel to its long axis and secured by mattress sutures placed vertically to the surface of the abdomen at intervals of about one centimeter. The edges of the external ring are finally brought together by a similar plan. Thus the canal and the ring are narrowed so as to allow the cord to pass freely through. This method is found to be very applicable to cases in which the sac can be entirely emptied primarily or after freeling slight adhesions. Its advantages are that the external oblique aponeurosis is nowhere divided over the canal, that the apposed surfaces are not cut edges, but broad intact areas, and that all the sac is obliterated as in the Bassini method. His results are as good as with the Bassini operation.

Pregnancy After Removal of Both Ovaries.—Cases of pregnancy following removal of both ovaries and tubes are rather rare. M. A. MORRIS (*Boston Med. and Surg. Jour.,* Jan. 24, 1901), reports the occurrence of such a case in his practice. The patient had had dysmenorrhea for a number of years, in fact, since the birth of her boy who was four years of age at the time she consulted the writer. After examination and some preliminary treatment she was operated upon for disease of the ovaries. The right ovary contained a cyst as large as a hen's egg and the left ovary a hematoma nearly as large as the cyst. The ovaries and tubes were tied off with silk quite close to the uterus and removed; the patient made a rapid recovery. She began to menstruate soon after the operation, and continued to do so regularly and painlessly for about four months. Then she complained of morning sickness, nausea, cardialgia, and also abdominal enlargement. An examination

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showed that she was pregnant. In due time she was delivered of a healthy girl. The child died two or three weeks after birth, and soon after that the patient menstruated and has continued to do so regularly and normally ever since. The only explanation Morris offers for this pregnancy after removal of both ovaries and tubes is that there may have been a third ovary or that a scrap of ovarian tissue must have been left behind. He cites a number of writers who have reported similar cases, and also a few who have found supernumerary ovaries.

Treatment of Acute Rheumatism.—Since Maclagan, in 1874, introduced the salicyl compounds in the treatment of rheumatism, the physician has possessed a most satisfactory and certain remedy and the patients' suffering has been greatly minimized. Whether this drug acts as an antiseptic, destroying the specific organism, or has an antitoxic action, or is merely a nerve sedative, is yet unknown, but its specific action is none the less certain. A. P. LUFF (*Practitioner*, Jan., 1901), in reviewing the treatment of this disease, says that the salicylates must be given in large doses, twenty grains every two hours, until the acute symptoms have subsided, and then in smaller doses for at least two weeks more. The reason that relapses have apparently become more frequent is undoubtedly due to the fact that patients are allowed to get up and the drug is stopped too soon after the subsidence of the acute symptoms and before the disease has actually ceased. The treatment by alkalies was originally based upon the belief that rheumatism was a result of excessive production of lactic acid, and, although this theory is no longer held, the alkalies are still used in combination with the salicylates to diminish the tendency to hyperfibrinosis of the blood, which occurs when the alkalinity is lessened. The tendency toward endocardial complications is believed to be diminished thereby. Potassium bicarbonate, thirty grains, may be given every two hours at first and the dosage gradually cut down. The disagreeable effects of the salicylates may be largely obviated by the free use of calomel. Sodium salicylate seems to be the most efficacious preparation, but when not well tolerated salacin should be substituted. Absolute rest in bed, woolen clothing, and a fluid diet are essential. For the relief of pain in a joint, blistering, tincture of iodine, or, better still, the application of a piece of lint saturated with about a dram of salicylate of methyl, will be found very beneficial. Hyperpyrexia is not a very frequent complication since salicylates have been so freely used, but when it does occur energetic treatment by means of cold baths, cold packs, and stimulants, should be at once employed.

New Objective Test for Mastoiditis.—ALBERT H. ANDREWS (*Jour. Am. Med. Assoc.*, Jan. 26, 1901) says that the use of the stethoscope and the tuning-fork to determine the comparative density of the two mastoids is a valuable aid in the diagnosis of mastoid complications. The method he believes to be a new one. The test is made by placing a stethoscope with a small bell over the tip of the mastoid and placing the handle of a vibrating tuning-fork over the antrum. It is found that when the mastoid is filled with pus or granulations, or when it is dense from obliteration of the air-cells, the sound-waves are transmitted to the ears of the examiner more distinctly than when the same test is made on the opposite or normal side. Care must be taken not to stretch the skin between the tuning-fork and the stethoscope, for then the vibrations are heard better than when the skin is not stretched. The lower border of the middle fossa can also be very accurately located by the same method. The line indicating the change from cranial cavity to mastoid is usually well defined. The position of the lateral sinus in relation to the mastoid can be determined in the same manner, but not so accurately. The writer has found this test of use in his examinations of mastoid cases. He reports a case in detail showing the advantage of this test.

Treatment of Influenza.—After pointing out the differences in the clinical aspect of the ordinary grip attack this year, when catarrhal symptoms are so prominent, as compared with the epidemic which occurred in 1890, W. H. THOMSON (*N. Y. Med. Jour.*, Jan. 26, 1901) offers the suggestion that the mildness of the recent cases has been partially due to an immunity acquired by a previous attack of this most prevalent contagious disease. To counteract the vascular derangements of the respiratory tract, aconite is a very favorite remedy in the early stages. Phenacetin seems to have a most beneficial effect upon the febrile pains and, when combined with quinine, is thought to have perhaps a true antitoxic effect upon the influenza poison. They are used not so much to reduce the temperature as to mitigate the symptoms and prevent sequelæ. A favorite prescription with the author is: Extract of aconite, gr. $^1/_6$; Dover's powder, gr. j; phenacetin, grs. iv; quinine, grs. iij, made into two pills, but given at one dose, three times a day. When nasal catarrh is a prominent symptom a pill containing an eighth of a grain of belladonna and two grains of camphor afford relief. A flushing of the throat by a Davidson syringe with a quart of hot water, containing two drams of potassium chlorate and five minims of oil of peppermint, is very grateful. Attacks of excruciating pain in the supraorbital region, with photophobia often coming on at regular intervals, is almost certainly relieved by dram-doses of fluid extract of ergot. A very troublesome complication is the presence of large quantities of viscid sputum in the bronchioles, which keeps up a futile and exhausting cough. The emulsion of linseed oil, half an ounce, with a twelfth of a grain of morphine sulphate and eight grains of chloral, has been used for years by the author as the most efficient means of liquefying a viscid mucus of the bronchi.

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Leontiasis Ossea.—A case of this very unusual condition is reported by E. H. E. STACK (*Bristol Med.-Chir. Jour.*, Dec., 1900). The patient was a female, aged two years, with no important etiological history, except that when very young she received an injury to the head which required several months to heal. When about seven, the enlargement of the head was noticed and this gradually increased, being considered due to hydrocephalus. Her mental condition was remarkably good. She died suddenly of acute obstructive dyspnea due to a tumor in the nasopharynx. At autopsy the skull was found to be greatly thickened, the vault being in some places three inches. The skull weighed eight and one-half pounds and appeared to be normal in shape on its interior, none of the foramina being constricted. The brain was normal in size and appearance. There was a double scoliosis, a distorted pelvis and the femora were bent forward, but there was no enlargement of any bone except those of the skull. The liver was fatty and cirrhotic and possibly syphilitic. The thyroid contained a mass which resembled the appearance of the gland in exophthalmic goiter. No other lesions could be found.

THERAPEUTIC HINTS.

Dyspepsia Pills.

℞ Quinin. sulph.....
Ext. rhei.....
Ac. carbol. .....aa. 1.0 (gr. xv)
Pepsin ..... 5.0 (gr. lxxv)

M. ft. pil. No. XXX. Sig.: One before each meal at which meat is taken.—*Lennox Browne.*

Furunculosis.—Attend to the general health, writes GEO. T. JACKSON, look for diabetes or other constitutional disease and give tonics. Among the remedies recommended are sulphide of calcium, gram 0.006 (gr. $^1/_{10}$), every two or three hours, the compound syrup of the hypophosphites, grams 8.0 (ʒ ij), three times a day, sodium hyposulphite, gram 1.0 (gr. xv), three times a day, tar-water up to a quart a day, or half a wineglass of yeast night and morning. Le Gendre advises for intestinal antisepsis every four hours:

℞ Betanaphtol .....
Bism. salicyl.....
Magnes. carb.....aa. 0.3 (gr. v)

Boils should neither be poulticed nor squeezed. They may often be aborted by injecting pure carbolic acid, applying ointment of the red oxide or nitrate of mercury, or painting with iodine. If the boil is already mature, thrust a little pure carbolic acid into its central opening by means of a wooden toothpick, then dress with carbolized vaseline or boric-acid ointment. Or it may be opened and dressed with iodoform or aristol.—*Diseases of the Skin.*

Aortic Aneurism.—The remedy *par excellence*, writes H. A. HARE, is potassium iodide, gram 0.65-1.3 (gr. x-xx), three times a day, with complete rest in bed, and a non-stimulating, easily digested diet, or even an absolute milk diet. If the heart is excitable and irregular, with high arterial tension, tincture of veratrum viride, gram 0.065-0.13 (♏ j-ij), may be given two or three times a day, but no digitalis. Aconite is of less use than veratrum. Opium, morphine and chloral, or, best of all, croton-chloral may be given for pain and restlessness, as:

℞ Morph. sulph.....0.08 (gr. 1/8)
If dyspnea is marked, "whiffs" of chloroform
Croton-chloral .....0.65 (gr. x)

are useful.—*Practical Therapeutics.*

Bronchopneumonia in Infants.—In every case of bronchitis, whooping-cough, measles, scarlatina, diphtheria, etc., isolate the patient, avoid catching cold, keep nasal passages and mouth clean with boric-acid solution, and keep bowels open with calomel, says CARRIÉRE. When the bronchopneumonia has declared itself keep the patient in bed in a well-ventilated, cool room, wrap the lower limbs in cotton, and have the child's position changed often. Feed plenty of milk, bouillon and beef-juice and much water to drink. To lessen the congestion and increase the evacuation of pathological products, give syrup of ipecac, grams 4 (dram j) every five minutes till vomiting supervenes, and follow by warm water; then give every three hours a tablespoonful of the following:

℞ Ergotin ..... 0.06-1.0 (gr. j-xv)
Strych. sulph.. 0.0002-0.0005 (gr. $^1/_{300}$-$^1/_{120}$)
Syrupi ..... 20.0-40.0 (ʒ v-x)
Aquæ .....ad. 120.0 (ʒ iv)

And apply dry cups, mustard plasters, or poultices. Stimulate the body with warm baths or mustard baths, and with a suppository night and morning of quinine hydrobromate, gram 0.06 to 0.40 (gr. i-vij). Cleanse nasal passages with 10-per-cent, mentholated oil, the mouth with boric-acid solution, and the bronchi by the internal administration of eucalyptus, terpin hydrate, benzoate of sodium, etc. Give every day a grain of calomel for each year of age. For feeble heart give digitalis, sparteine sulphate or benzoate of caffeine; for dyspnea, inhalations of oxygen; for collapse, friction with hot flannels wet with spirit of camphor, or inject solution of camphor in oil or ether. During convalescence, give cod-liver oil or the following:

℞ Calc. lactophos..... 60.0
Calc. glycerophos..... 60.0 (aa ʒ ij)
Aquæ .....1 liter (1 quart)

—*Le Nord Médical.*

Colic With Tympanites.—

℞ Spt. aetheris comp..... 2.0 (ʒ ss)
Tinct. opii camph..... 8.0 (ʒ ij)
Aq. chloroformi.....30.0 (ʒ i)
Aq. menth. pip.....60.0 (ʒ ij)

M. Sig.: A tablespoonful every hour or two according to the severity of the attack.—*Le Progrès Médical.*

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SATURDAY, FEBRUARY 9, 1901.

THE MAJESTY OF THE LAW.

WHAT a fine thing it must be to be a Judge and settle delicate ethical questions regardless of the prevalent opinion of humanity. Nothing need ever perturb a Judge any more than the Cardinal who was dining on a Friday at the house of a lady who had forgotten the fast of the Church. "Let all that is on this table be fish," said the Cardinal and he straightway proceeded to make a good dinner.

It has long troubled the medical profession that its members should be subpœned to appear in court, regardless of their appointments and office hours. Lawyers are not so summarily treated, but are consulted as to their convenience. Dr. Keen was once interrupted in the midst of an important operation by a process-server, but he refused to leave the operating-table as his patient's life would be endangered, and the Judge excused him.

The shortsightedness of common sense would have said, save your patient always and then go to court. But who ever heard of other witnesses being keep waiting, of a case being postponed, or a verdict delayed, or any of the terrible contingencies that might occur if a physician delayed to ease a hurt or save a life. No, a case in hand proves it. Dr. W. D. Moore of Philadelphia was late by half an hour in court, whither he had been summoned as a witness in an accident case. The Judge, we spare him the notoriety of mention, fined him ten dollars. He pleaded that he had been with a patient who was critically ill, and that he had tried to catch the train. "Well, then," said the august Judge, "because you tried to catch the train I'll take off the ten dollars, but, remember," and here let physicians note the decree, "it were better that the patient should die than that the community's witnesses should place themselves in contempt of Court."

The Biblical implication is that only "the Judge of all the earth" is infallible, therefore we must not place too much stress on the dictum of the Judge of Philadelphia; for we think that if he had been able to kick a dog or slam a door accidentally, when he felt himself constrained to accept the doctor's excuse, he would not have loaded himself with so much responsibility concerning the ethics of medicine and the law.

DR. KEEN ON THE PROGRESS OF SURGERY IN THE NINETEENTH CENTURY.

THE surgeon's art at the end of the Eighteenth Century was little more than skilful butchery; and yet the surgeon who amputated a limb or removed a cancerous breast had his heart wrung as no surgeon of to-day has by the suffering he was obliged to inflict to save life, and by the uncertainty of the success of his operation. To-day the suffering and the uncertainty are reduced to a minimum through the discovery of anesthesia and antisepsis; with the result that the skilled speed that was once so necessary to shorten the agony of the knife is now replaced by the deliberate skill required in minute dissections, and the ever-present dangers of blood-poisoning, erysipelas and gangrene are banished by the knowledge of the bacteria that cause them.

Dr. Keen, in his very comprehensive and critical history of the Progress of Surgery During the Nineteenth Century, published in the *New York Sun* of Sunday February 3d, traces the great factors that have revolutionized this branch of medicine, and it is with a feeling of amazement that we wonder how such advances could have been made in so few years.

It is to the underlying sentiments and to the quiet individual work that we owe the detailed

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success. The discovery of ether and chloroform was even in itself perhaps the greatest complete discovery, but the exploding of the theory of spontaneous generation and the proof of the resistance of bacteria by Pasteur, with the discovery of antisepsis by Lister, were but the beginning of endless experiments made by patient laboratory workers on countless of the prolific lower animals, and of a series of discoveries that have run every diseased tissue of the body to its origin. The interest in this resumé of surgery lies for us, therefore, not so much in the distinguished names of discoveries, but in the cooperative work of all surgeons of the world.

One of these forces has been the impetus in the study of anatomy and pathology. It is only very recently that the requisite material for such studies has been provided by law. Formerly, to steal a dead body was the only means of acquiring a cadaver. In England up to 1832 a regular traffic in human bodies existed as well as here.

Sir Astley Cooper, in his testimony before the Parliamentary Committee made a shiver run down the backs of the noble lords by saying that in order to dissect the body of any of them it was only necessary for him to pay enough. As a result of the atrocities that were perpetrated in order to acquire sufficient material, the laws in England and of most of the States have made it possible to obtain a reasonable number of cadavers.

Another cause and effect of increased skill in operations is the invention of instruments of precision which ingenious surgeons of every land have contributed to the science and an equal factor has been the constant interchange of methods by surgeons by means of the medical journals that have increased with such astounding rapidity during the last twenty-five years. Prior to the last few decades there were a few celebrated men to whom people came for major operations all over the country. An Astley or a Pancoast was himself the genius that made a difficult operation successful in past decades; to-day it is applied technic or the collaborated results of the work of different men. Willard Parker's operation for abscess above the groin, the precise significance of McBurney's point, these and other new ideas have been spread over the whole civilized world by means of the literature, and now, after twenty years, there is probably not a city in the United States in which some surgeon has not performed successfully the operation of appendicitis.

Operations on the stomach, the kidneys, the lungs, the heart and the brain, the organs that were heretofore considered impossible to touch, are every day becoming more common; and not only are these done by the few celebrated surgeons who have devised them, but by the internes in hospitals and the young men of the country.

With the Roentgen ray illuminating one's very bones, and the application of spinal anesthesia, the new century has dawned with vast possibilities; and Dr. Keen states that marvelous as has been the advances of surgery in the Nineteenth Century, especially in the last thirty years, he believes that still more wonderful things lie hidden in the realms of surgery that the Twentieth Century will reveal.

REPORT ON ANESTHETICS OF THE BRITISH MEDICAL ASSOCIATION.

THE long-promised report of the Anesthetics Committee of the British Medical Association is an important document, as might have been expected from the time and trouble spent in its preparation. The material upon which it is based was collected in 1893. But the detailed examination and classification of the 25,920 recorded cases have required much time and trouble. Upward of 800 cases have been printed with all available details and give examples of almost all the varieties of complications.

Excluding other causes than the anesthetic, chloroform was responsible for more than one case of danger in every 200 administrations, ether for less than one in 1,500, gas and ether for less than one in 1,000. One conclusion is that a mixture containing chloroform should not be administered by means of a closed inhaler. It is especially in cases of good general health that chloroform is so much more dangerous than other anesthetics while ether is singularly safe.

As the gravity of the patient's condition increases anesthetics become progressively more dangerous. The dangers of chloroform and ether are much alike in extreme conditions. The tendency for circulating complications to appear increases directly with the length of the administration and amount of chloroform employed. Respiratory complications are of equal frequency under ether and chloroform, but under the former are trifling and transitory; under the latter grave and persistent.

One of the objects of the Committee was to examine from a clinical standpoint the statement

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of the Hyderabad Commission that chloroform has no direct action on the heart which has given rise to very heated controversy between pharmacologists and physiologists of such repute as Sir Lauder Brunton (who was a member of the Commission) and Dr. Leonard Hill. So far as clinical evidence goes this conclusion is repeatedly refuted. The Committee find that "when danger occurs under chloroform, whatever its exact nature may be, there is abundant evidence that in a large proportion of cases the symptoms are those of primary circulatory failure." Another conclusion is that by far the most important factor in the safety of anesthetics is the administrator; the greater his experience the safer the administration.

ECHOES AND NEWS.

NEW YORK.

Lectures on Toxic Neuroses.—Dr. T. D. Crothers of Hartford, Conn., will deliver a course of clinical lectures "On the Neuroses and Psychoses of Spirit and Drug Diseases" at the hall of the New York School of Clinical Medicine, 328 West 42d Street, New York City. The first lecture will be given February 18th at 8 p. m. The profession is cordially invited to attend.

Harvard Medical Society of New York City.—At the last meeting of the Society, held at the University Club, the following officers were elected for the year 1901: President, Dr. Howard Lilienthal; Vice-President, Dr. Theodore W. Dunham; Secretary, Dr. J. Hilton Waterman; Treasurer, Dr. Joseph Kenefick.

State Death-Rate.—The number of deaths from all causes reported for the year to the State Board of Health is 128,468. This exceeds the mortality of 1899 by 6,647 and the average of the past five years by 8,000. Besides these reported deaths there were 1,600 returned too late for report, making the death-rate for the year 18.5. The increase over last year is largest in the maritime district, where there were 5,600 more deaths than in 1899. The infant mortality was 4,000 greater than last year, but the percentage of deaths under five years is the average of past years. Typhoid fever was unusually prevalent in the autumn, causing 1,948 deaths, 350 above the average. Measles prevailed to excess in all parts of the State, the 1,333 deaths being 300 above the average. Scarlet fever was less than usually prevalent. Diphtheria had a mortality 500 below the average. Smallpox was brought from outside to seventeen places during the first half of the year, without spread. From August to November the State was free from it; then a traveling minstrel troupe left it at three localities in the eastern part of the State, whence it spread. Of fourteen deaths, four have occurred outside New York City. The grip epidemic of the year was unusually severe, and probably added 1,500 to the number of deaths.

New Dobbs Ferry Hospital.—The Dobbs Ferry Hospital Association has decided to have a hospital which will be an architectural ornament to the village. It will, probably, be of one story only, built of brick.

Cancer Home for Men.—An attempt is to be made to secure funds by which the ministrations some time exercised by St. Rose's Free Home for Incurable Cancer, but only for women, may be extended to the cases of destitute men. It is intended to establish a second home near the first, in Cherry Street, the new one to be under the supervision of the Dominican Sisters, and to be known as St. Joseph's Home. The sum of $40,000 is needed, and George Warrington Curtis has given $2,000.

PHILADELPHIA.

Pennsylvania Raises Medical Standard.—The University of Pennsylvania, at the beginning of the present school year, adopted a curriculum embodying four years of exclusively medical study. This new curriculum has just been adopted by the State Medical Council, at its winter meeting, as the standard for Pennsylvania. Under this new standard it is impossible for an unfit man to secure the right to practise medicine in the State.

Compulsory Vaccination.—The case of Charles J. Field against the Principal of Keystone Public School, has been appealed to the Supreme Court, the lower Court having sustained the teacher who refused admittance to the daughter of Mr. Field, she not having been vaccinated. Decision of the Court is reserved. The Anti-Compulsory Vaccination League has sent to Harrisburg a petition for the repeal of the objectionable features of the law.

Appointment of Dr. McFarland.—Dr. Joseph F. McFarland has been chosen by the well-known firm of Parke, Davis and Company as pathologist and bacteriologist.

County Medical Society.—At the meeting of January 23d, Dr. Albert E. Roussel reported three cases of malignant endocarditis, one following measles, a second following a typical attack of typhoid fever, and a third terminating in recovery. The second case, owing to enlargement of the spleen and superficial glands and the condition of the blood, simulated leucemia. Recovery in the third case would seem to throw doubt on the diagnosis, but several facts were regarded as proof of its existence, *viz.*: The patient had shortly before been accepted for life insurance; the blood, as well as numerous abscesses contained streptococci; lesions of the heart have persisted, as proven by murmurs. Dr. J. M. Anders stated that visceral and cutaneous embolisms were the most important diagnostic points in the disease. Dr. John B.

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Roberts reported two cases of epiplopexy for cirrhosis of the liver. Both patients died, one in six months, the other the day following operation. The true value of this procedure has not yet been determined, but as it is a trivial one Dr. Roberts believes it should be done as soon as the diagnosis is made. The technic he employs is as follows: An incision through the abdominal wall above the umbilicus is made under local anesthesia. A finger is introduced and the omentum held against the abdominal wall. Sutures of chromicized catgut are then passed by means of a long, curved needle which enters the skin, passes through the abdominal parietes and omentum and emerges through the skin about one inch from the point of entrance. The omentum should also be anchored in the abdominal incision when it is closed.

Officers of the Society for the ensuing year are: President, Dr. Geo. Erety Shoemaker; Vice-Presidents, Drs. Thos. H. Fenton and Francis Perkins; Secretary, Dr. Elwood R. Kirby; Treasurer, Dr. C. L. Bower; Censor, Dr. Frederick P. Henry.

Symposium on Brain Tumors.—Tumors of the Brain was the subject of discussion at the meeting of the Neurological Society, January 28th. Drs. Wharton Sinkler, F. X. Dercum, J. K. Mitchell, W. G. Spiller, and C. K. Mills reported cases. Dr. Sinkler called attention to the close resemblance in some cases of the symptoms of paresis to those of brain tumor. Dr. Mills spoke of localizing symptoms in tumors of the parietal and prefrontal regions. Great importance is placed on the occurrence of the sensory symptoms before motor manifestations present themselves. In the discussion Dr. W. W. Keen spoke of the amount of injury to the brain that was inflicted in some cases. In a recent case the lateral ventricle was opened. The early recovery of motor function is noticeable, in the case mentioned the boy moving his arm and leg in forty-eight hours. One surgical problem to solve is whether to close the wound and run the risk of hemorrhage, one patient dying from this, or drain and probably have a fungus cerebri result. In the last case operated upon he left gauze drainage in for only twenty-four hours, yet a fungus cerebri is threatened. This, however, is more readily dealt with than is hemorrhage.

New Medical Journal.—It is stated that subscriptions to the stock of a new medical journal, to be owned entirely by members of the profession and edited by Dr. Geo. M. Gould, have been unexpectedly great and now ensure the founding of the journal. It will be known as *American Medicine*, and it is expected that the first number will appear during March.

CHICAGO

The Giving of Commissions and Division of Fees.—At a recent meeting of the Chicago Medical Society, held January 23d, the following resolutions which are of great interest to the profession, were presented: "*Whereas*, It is commonly reported that some consultants and operators are in the habit of compounding fees; and, *Whereas*, The giving of commissions or a part of the fees by physicians or surgeons to any other person is detrimental to the good name of the profession and reduces the practice of medicine to the lowest commercial basis: (1) Because it is in effect the employment of an individual drummer for personal advertising; (2) because it in effect promotes one's personal gains at the expense of other well-qualified physicians by an underhanded method of cutting fees; and (3) because it is in effect the practising of a confidence game upon the patient; therefore, be it *Resolved*, That this course is considered dishonorable by this Society, and shall subject any member practising it to expulsion. *Resolved*, That every member knowing or hearing of any member of the Society violating the spirit of this resolution, is hereby earnestly requested to report the same to the Committee on Judiciary, in writing, with the fullest possible circumstantial statements, to the end that the facts or rumors may be thoroughly investigated for the benefit of the accused and for the benefit of the Society. *Resolved*, That it shall be the duty of the Committee to employ every means in its power to ascertain the facts in the case; that it shall notify the accused of the charges; and shall give him every facility to explain the matter, and that it shall report its findings to this Society as soon as practicable. *Resolved*, That the wilful violation of the spirit of these resolutions after this date shall be a good and sufficient cause for expulsion from this Society, and that upon the report of the Committee upon any case a three-fourths vote of the members present, by secret ballot, shall determine the action of the Society.

Dr. J. B. Murphy endorsed the resolutions strongly. Dr. Harold N. Moyer said the sentiments of the resolutions were his own, but he felt sure that nobody in the Society would divide a surgical fee, and it was unnecessary to establish such a ruling. He was willing to recommend against the practice, but not to legislate upon it as penal in the professional code. His midway position brought the opposition from under cover. Dr. William E. Quine, although a signer of the resolutions as presented, became the champion of the general practitioner, and it is said he opposed the measure in vigorous terms as hypocritical and unjust. He is reported to have spoken as follows: "I have never taken a part of any surgeon's fee who has operated upon cases at my instance, but in the future I propose to do so. I now recognize that the matter has come to a well-defined issue and has got to be settled and, I think, in favor of giving the consultant a consideration which now is usually denied him. I think it just he should have a share of the surgeon's fee in many instances. I attended one entire family twenty years through all the vicissitudes consequent upon births, fevers, and the rounds of pains and ailments from childhood to age. Finally, one member of the household developed appendicitis. I diagnosed the case and called in a surgeon. He

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got for that one operation $2,500, more than I have received before and since for my twenty years of service. I say that is not right. I now consider I was entitled to a part of the fee for my services in the case. In the future I will demand a consideration under such circumstances." The remarks of Dr. Quine elicited loud and prolonged applause. After considerable discussion, participated in by various members, for and against the resolutions, on motion they were referred to a committee composed of Drs. James H. Stowell, L. L. McArthur, N. S. Davis, Jr., Frank Billings and John B. Murphy. It is expected that the Committee will report at an early subsequent meeting.

Apropos of these resolution, the *Chicago Times-Herald,* in its issue of January 25th, publishes an editorial, a part of which we quote: "The surgeon as a preacher of ethics, as a stickler for the good name of the profession, as a contemner of the drummer and the 'commercial basis' is a sight to make gods and men weep or swear. A hint of his fitness for this role was conveyed in the declaration of Dr. Quine that the single fee of a surgeon for an operation on one of his patients amounted to more than all the fees he himself had received from that patient's family, though he had been the family physician for twenty years. The amount was $2,500, and it is $2,500 to $500 that the services were not worth the sum last named.

"Commercial basis! We have heard of a surgeon's fee recently which was large enough to constitute a very considerable mortgage on the property of the patient against whom it was charged. It was preposterous by comparison with the work done, outrageous in consideration of the victim's ability to pay. No, the basis was not commercial, it was 'banditical,' so to speak, and the scalpel was its very proper symbol. The doctor who acts as a drummer for surgeons is *particeps criminis,* and between the two the word 'operation' has come to be repeated with a sinister monotony. An honorable doctor may grumble at the surgeon's fee, but he will have no division. In every necessary case whatever pay is given should go to the man who performs the work."

Dr. Quine says that he has been misquoted in relation to this question, probably because he himself did not state his position very clearly in the debate.

The position of Dr. G. Frank Lydston on this subject is very timely and unmistakable. He says: "If the practice of medicine is merely a trade, it is time the fact was understood. Reputable physicians are supposed to be on the same professional plane. If one man regards his practice as a trade and acts accordingly while another regards it as a noble profession, the two are widely apart and should not, even theoretically, occupy the same plane. If the paying and receiving of commissions by physicians is right, then all of our claims to recognition as a learned profession should be thrown to the winds. A profession which ostracizes a doctor who advertises in the newspapers, yet fraternally recognizes a man who gives and receives commissions for steering cases to him is a spectacle for gods and men. Suppose, for the sake of illustration, that the family physician should refer you to me for the performance of an operation; I perform it, and, if you are a man of means, I charge you $1,000 for it. You subsequently ascertain that $500 of this was surreptitiously paid by me to your family physician. Would you not doubt the honesty of the whole transaction? Would you not wonder whether your doctor had referred you to me for your own good or for what there was in it? Would you not wonder whether the operation was really necessary or not?"

Resolutions Condemning the Giving of Division of Fees.—The Committee to which were referred the resolutions introduced at a meeting of the Chicago Medical Society on January 23d made the following report at a meeting held January 30th: *Resolved,* That the offering or giving of a commission, or percentage of a fee, by the consulting physician or operating surgeon, or the asking or receiving of such a fee or commission in any guise whatsoever by the physician referring the case, is dishonest, disreputable and unethical, unless such an arrangement be made with the full knowledge of the patient. *Resolved,* Further, That a violation of this resolution shall subject the offender to expulsion from the Society. These resolutions were unanimously adopted by a rising vote. Dr. Archibald Church introduced the following resolution: That it be the sense of the Society, that the fees ordinarily received by the attending physician in connection with cases requiring surgical operations in common practice are not adequate, and that the physician should have the support of the Society to increase his charges under such circumstances. This resolution was likewise adopted.

County Hospital Medical and Surgical Staffs.—President Hanberg recently submitted a recommendation to increase the number of internes at the County Hospital to 39, of whom 27 shall belong to the regular school, 7 to the homeopathic, and 5 to the electic. He urged also that the hospital staff be divided into three classes, to be known as the attending staff, the associate attending staff, and the advisory staff. The associate attending staff is to furnish substitutes for the attending staff, while the advisory staff is not to be called upon unless the work becomes too great for both of the other staffs to attend to properly. The list of appointees is as follows: *Surgeons,* Drs. J. B. Murphy, T. A. Davis, Denslow Lewis, F. S. Hartmann, Charles F. Swan, John Leeming, E. L. Moorhead, A. I. Bouffleur, Leonard St. John, S. L. Weber, J. W. Tope, Charles Davison, C. P. Stringfield, Weller Van Hook, Daniel H. Williams, F. W. McNamara, Aime P. Heineck, O. W. MacKellar, D. N. Eisendrath, W. E. Schroeder, Frank Byrnes, G. Seim, A. E. Halstead, W. A. Kuflewski, J. P. Webster, H. R. Hammond, R. A. Letourneau, T. J. Conley, and M. J. Kearsley. *Attending Physicians,* Drs. Frank Billings, Arthur R. Edwards, James B. Her-

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rick, Chas. C. O'Byrne, E. Fletcher Ingals, William E. Quine, B. M. Linnell, John A. Robison, Florence Hunt, T. A. Noble, J. F. Dolamore, and A. E. Price. *Pathologists,* Drs. L. Hektoen, and W. A. Evans. *Dermatologists,* Drs. L. Blake Baldwin and M. B. Sincere. *Obstetricians,* Drs. Effie L. Lobdell and Frank B. Earle. *Diseases of Children,* Drs. F. S. Churchill, Josephine A. Jackson, Wm. J. Butler, and Isaac Abt. *Ophthalmologists,* Drs. Allen T. Haight and J. C. Huizinga. *Nervous Diseases,* Drs. Sanger Brown and D. R. Brower. *Dental Surgeon,* Dr. Hart J. Goslee.

Chicago Medical Examiners' Association.—At its January meeting the following officers were elected: President, Dr. Denslow Lewis; Vice-President, Dr. James E. Stubbs; Secretary, Dr. James H. Stowell; Treasurer, Dr. J. Homer Coulter.

Three Cases of Acromegaly.—At the meeting of the Chicago Neurological Society, held January 11th, Dr. Sydney Kuh reported three cases of acromegaly treated with pituitary bodies. In the first case the existing headache and mental depression seemed somewhat relieved, while in the other two cases the patients were benefited to a more marked degree; headache, vertigo, general weakness, hyperidrosis and projectile vomiting ceased, and in one instance trophic disturbances in the nails of the hands showed well-marked changes for the better. In the third case cramps in the calves of the legs appeared after the patient had been under treatment for nearly one and a half years and the woman became very much depressed mentally. The essayist said that he did not believe the results to be due to suggestion only. He believes that the disease of the pituitary body is the cause of acromegaly. In every case of this malady in which a thorough postmortem examination was made, the gland was found to be affected not only in man, but also in the one case known to have occurred in an animal. There is a good deal of evidence to show that the hypophysis exerts some influence upon our physical development, that it may not only cause acromegaly, but under certain conditions the opposite condition, stunted growth.

Internes in Asylums.—Four of the city medical societies have passed resolutions recommending the selection of at least four medical internes for each of the State hospitals for the insane; that such internes shall be selected by competitive examinations from the graduates of the medical colleges in the State, recognized by the State Board of Health; that they shall serve for one year, and receive as compensation lodging, board, washing, and $100 at the expiration of their term of service, and that the professors of nervous and mental diseases of the five medical colleges having the largest number of students in attendance shall be the examiners to select these internes.

Professional and Unprofessional Advertising.—This subject was dealt with by Dr. G. Frank Lydston at the Physicians' Club of Chicago. This paper will appear in the MEDICAL NEWS.

Practice of Medicine as a Source of Income.—Dr. A. K. Steele read a paper on this subject, in which he said that there is a vast amount of ignorance on the part of the public, and of the profession as well, which is usually rudely dispelled when the dead doctor's will is made public in the Probate Court, and general surprise is expressed that Dr. A., who was reputed to have an income of from $20,000 to $30,000 a year, left his family only a ten-thousand-dollar estate, and had allowed his life insurance to lapse a few months before his death. The speaker said he had taken pains to ascertain the average income of doctors from their practice, and he is firmly convinced that professional incomes are greatly over-estimated. The expenses of the physician keep pace with his increasing business. Larger incomes demand better offices, a finer house, more servants, more social duties, and at the end of the year the balance sheet shows very little on the side of net profit. The two- to three-dollar visit, the five- to twenty-five-dollar consultation, the ten- to thirty-dollar case of obstetrics, and the larger fees provided for operative work in the fee table do not insure large incomes for many in the profession. The first five or ten years' practice is usually a struggle for existence; the second ten years' a competency, or good living, and during the third ten years the physician is likely to be crowded out by the younger and more progressive element. He said one could count on the fingers of one hand the practitioners in Chicago whose incomes from practice exceeded $30,000 per annum, and probably not more than a score exceeded $20,000 per annum. The income of the average practitioner varies from $1,500 to $3,000 per annum. Office specialists—eye and ear, nose and throat—average $2,000 to $6,000; consulting physicians, $5,000 to $15,000; six leading physicians, $15,000 to $35,000; six leading surgeons, $20,000 to $60,000; six leading gynecologists, $10,000 to $20,000; six leading office specialists, $10,000 to $15,000; average surgeons, $3,000 to $10,000. One's income may be enhanced in a variety of ways, as, for example, increasing his reputation by original work; by essays and discussions in medical societies; by affiliation with medical colleges in a teaching capacity; by becoming attached to the staff of a reputable hospital; by caring for the sick or injured of a corporation; by making life-insurance examinations. It is perfectly legitimate to build up a practice in this way. Practice may be increased illegitimately by criminal curettements, by unnecessary operating, by useless visits, by exploiting cases in the public newspapers, by specialists' reprints for patients, by lending one's name to endorsement of proprietary remedies, etc.

Legitimate and Illegitimate Fees.—This phase of the subject was discussed by Dr. A. J. Ochsner. Dr. A. H. Ferguson offered the following resolution, which was adopted: *Resolved,* That the Physicians' Club of Chicago most severely condemns the asking for or the receiving of a commission or part of a consultation or

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operation fee, as well as the offering or giving of a commission, or a part of a fee, as practices highly dishonorable and detrimental to the best interests of the medical profession.

Organization of the Cook County Hospital Staff.—At the annual meeting of the Cook County Hospital staff, held January 31st, Dr. Denslow Lewis was re-elected President, and Dr. L. Blake Baldwin was re-elected Secretary. The following executive committee was appointed by the President: Drs. Arthur R. Edwards, James B. Herrick, William E. Quine, J. P. Webster, C. P. Swan, O. W. MacKellar, and M. J. Kearsley.

Railroad Surgeon.—Dr. W. H. Hutchings of Ann Arbor, Michigan, has been appointed Chief Surgeon of Ann Arbor Railroad to succeed Dr. W. J. Herdman.

GENERAL.

Medical Examination Before Marriage.—A marriage license bill was introduced in the Wisconsin Senate January 16th which promises to eclipse the marriage law of 1899. This bill provides that no persons can marry who are suffering from true or hereditary insanity, insanity caused by vicious habits or the use of drugs, consumption and various other diseases which are named in the bill. Every person who wishes to marry is required to go before an examining board of three surgeons to be appointed in each county of the State by the county Judge, and must pass an examination before a marriage license can be issued to them. In addition all male candidates for matrimony who are under twenty-five years of age and all female candidates under eighteen years must produce a written consent of their parents before they can secure a license. Any clergyman, Justice of the Peace or other person who can perform marriages and who marries any couples who do not produce a certificate from the examining physicians of his county is to be fined not more than $500 or confined in prison not more than one year.

Plague at Cardiff.—It is officially certified that a mill worker at Cardiff, Wales, is suffering with bubonic plague. Another mill-hand is suspected of having the disease.

Plague at Constantinople.—Advices from the Marine Hospital Reports show that the plague has again broken out in this city.

St. Louis City Hospital Alumni.—At the annual meeting of the Medical Society of City Hospital Alumni, held December 20th, 1900, the following officers were elected for the ensuing year: President, Dr. Norvelle Wallace Sharpe; Vice-President, Dr. Francis L. Reder; Secretary, Dr. John Green, Jr.; Treasurer, Dr. Horace W. Soper.

Obituary.—Dr. Theodore De Clermont Miller died at his home, No. 49 West 117th Street, on Monday night last from pneumonia, after an illness of three days. Dr. Miller was fifty-nine years old and had been a practising physician in this city for thirty-two years. He is survived by a widow and three children.

Dr. Frederick S. Nelson, of New Market, N. J., died Sunday last from pulmonary troubles. He was thirty-seven years old and was graduated from Rutgers College in 1882 and subsequently took a course at the University of the South, at Suwanee, Tenn.

Dr. Henry J. Herrick, a widely-known physician and surgeon of Cleveland, Ohio, died last week. He was for many years connected with the medical department of the Western Reserve University. He was a member of the Loyal Legion, and served as surgeon general of the Ohio National Guard during Governor Foraker's administration.

Dr. Henry F. Baxter, one of the best-known physicians in the southern section of Philadelphia, died February 1st after a prolonged illness. Dr. Baxter was a man of wide culture, both literary and scientific, and was prominent in local and national chess circles.

CORRESPONDENCE.

STATE MEDICINE BILL.

To the Editor of the MEDICAL NEWS:

DEAR SIR: The profession must know, of course, that a bill has been introduced in the Legislature of this State, the purpose of which is to enable those who are empowered to do so to enforce the medical laws. As at present interpreted these laws can only be enforced against illegal practitioners who give medicines. If a person desires to evade these laws all it is necessary to do is to adopt some peculiar name or title, as Christian Scientist, Osteopath, Hydropath, Faith-Curist, or even no name, refuse to give medicines or drugs, and, although he or she may treat disease, there has been, as yet, no lawyer who will advise action against such an illegal practitioner. The law as at present enforced is an incentive to uneducated people to adopt some of these peculiar names or methods, and they can prey upon the community with impunity and without molestation.

The bill under consideration was objected to in the beginning by manufacturers of proprietary articles, opticians, and others, who claimed that its enactment would prevent a person recommending a friend to take a dose of pepsin, or some equally simple remedy, and would interfere with the sale of patented articles and in this way interfere with the newspapers advertising such articles.

The framers of the bill had no such intention in drawing this measure, and agreed to alter its phraseology. This has been done and as the bill reads now, it declares that any person shall be regarded as practising medicine who shall give treatment to any other person, by any method whatsoever, for the relief or cure of disease, ex-

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cepting in an emergency. There can be no valid objection to this bill on the part of patent-medicine manufacturers, wholesale or retail druggists, truss- or instrument-makers, or any other person who does not make a business of treating disease. Retail druggists have no right now to treat disease, except in an emergency, and this bill will not alter their position, or curtail their rights and privileges in any way. The legitimate business of the optician will not be interfered with in any way. This bill is designed to give an increased protection to the public, which is the only reason for the existence of any medical laws.

Christian Scientists, Osteopaths, and others will have to comply with the law, after which they can continue their peculiar methods if they can find any person who believes in them, or if they believe in them themselves, after they have been taught to discriminate. There is no desire to interfere with free thought or religious liberty. There is no desire to prevent any person practising any method their intelligence tells them is the best method. We only insist that every person who treats disease shall demonstrate to the State Board of Medical Examiners their ability to tell whether a disease exists, how to differentiate the disease which may exist, and then the matter of treatment must be left to individual judgment.

The battle is on and will be won by those who believe in protecting the community, if all who so believe will write to Hon. Nelson H. Henry, Chairman of the Assembly Committee on Public Health, giving their names and addresses, and urging the enactment of the bill. Will you not urge your readers to do this?

FRANK VAN FLEET, M.D.,
Chairman, Committee on Legislation, Medical Society of the State of New York.
New York February 2, 1901.

OUR LONDON LETTER.

[From Our Special Correspondent.]

LONDON, January 26, 1901.

THE EPIDEMIC OF ARSENICAL POISONING FROM BEER-DRINKING—APPOINTMENT OF A ROYAL COMMISSION—HOW THE CAUSE OF THE EPIDEMIC WAS DISCOVERED BY DR. REYNOLDS—SOME OF ITS FEATURES—ARSENICAL POISON IN LIVERPOOL—DEATH FROM DIVER'S PARALYSIS—INCREASE OF LUNACY IN THE UNITED KINGDOM—THE PREPARATIONS FOR THE COMING CENSUS—DEATH DURING TOOTH-EXTRACTION UNDER NITROUS OXIDE AND ETHER FROM IMPACTION OF A PIECE OF SPONGE IN THE LARYNX—THE DANGER OF THE ADMINISTRATION OF ANESTHETICS BY DENTISTS.

A ROYAL COMMISSION has been appointed by the Government to investigate the epidemic of arsenical poisoning due to beer-drinking. The Commissioners are Lord Kelvin, Sir W. Hart Dyke, Sir W. S. Church (President of the Royal College of Physicians), Prof. T. E. Thorpe (Government Analyst), Mr. H. Cosmo Bonsor and Dr. B. A. Whitelegge (Chief Inspector of Factories). Dr. G. S. Buchanan, one of the Medical Inspectors of the Local Government Board, is the secretary of the Commission. The instructions of the Commissioners are to ascertain: (1) The amount of recent exceptional sickness and death attributable to arsenical poisoning. (2) Whether it has been due to arsenic in beer or in other articles of diet. (3) In what way these articles became poisoned. (4) By what safeguards can such poisoning be prevented.

As to the manner in which the arsenic got into the beer the evidence given by the chairman of the company from which the firm who supplied the brewers with the contaminated sugars obtained sulphuric acid for the production of the latter from starch, is of interest. He said that his firm made the acid from pyrites. He had not the slightest idea what the sugar manufacturers wanted the acid for. He knew that acid made from pyrites frequently contained arsenic. They took measures to remove it, but sometimes they sold acid without doing so. The difference in price between arsenic-free sulphuric acid and non-free acid was only half a dollar per ton, sometimes less.

At the Royal Medical and Chirurgical Society Dr. Reynolds of Manchester, to whom is due the credit of discovering that arsenic in beer was the cause of the epidemic of peripheral neuritis in that town, read a most important paper. His attention was first drawn to the subject in June, 1899, when he noticed an unusual number of cases of skin eruption in the workhouse infirmary, amongst which were about six cases of erythromelalgia. Later he observed an unusual number of cases of peripheral neuritis. He then noticed that the eruptions (which included herpes) occurred in patients suffering from neuritis. Remembering that herpes might be produced by arsenic he suspected the beer, which was the apparent cause of the neuritis. Erythromelalgia—painful red swelling of the hands and feet—was perhaps the commonest eruption. The erythema was most intense at the edges, the center of the palms being almost exempt. The pain was so marked that the patients could not sleep. The red patches were followed by keratosis of the hands and feet, the scales being exfoliated so plentifully that a two-ounce bottle could be filled in a short time. This keratosis was a most important symptom in diagnosis, because fair-haired persons did not get pigmentation. There were also scarlatiniform and morbiliform eruptions. The mental condition was very peculiar, being characterized by loss of memory and power to initiate ideas. The heart was very seriously affected. It might become dilated with edema of the feet and of the chest-wall. Death usually resulted from some form of cardiac failure. The urine in many cases contained arsenic, which could be found as long as two weeks after ceasing to take the contaminated beer. In some cases there was pyrexia.

In Liverpool the city analyst's report for the last quarter shows that of 298 samples of beer examined 25 contained a trace of arsenic; 20, a small quantity; 4, 1½ grains per gallon; 2, ¾ grain

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per gallon and 1, ½ grain per gallon. Four more cases of arsenical poisoning were admitted to hospital in the last weeks.

A diver has met his death in sinking an artesian well for a London water company. He was a man, aged thirty-seven years, who went down three times into the well before dinner. After dinner he went down again and came up in a quarter of an hour. While his boots were being removed he complained of giddiness and became very pale. He was put into a warm bath. He soon became unconscious. A doctor who was called in found the man suffering from dyspnea, with dusky face. His pulse was rapid and feeble and his limbs were limp. He died the same night. The necropsy showed congestion of the spinal cord. The cause of death was the severe nervous disturbance caused by passage from a pressure of 3 atmospheres to the normal—diver's paralysis.

Dr. Stewart, Deputy Medical Superintendent of the Glamorgan County Asylums, maintains in a recent lecture that lunacy is increasing—a fact on which I have previously commented. In 1891 there were 136,000 lunatics in the United Kingdom, of which 106,000 were maintained in asylums at an annual cost of $8,500,000. In 1859 there were 19 lunatics to every 10,000 people; in 1895, 40. Sixty people are now sent to asylums every day. The sanest country is England, then Scotland, then Ireland. Where there is chronic poverty, lunacy is greatest. It is remarkable that lunacy occurs chiefly in rural and agricultural districts, and still more so that the most drunken counties are the sanest. In different occupations the lunacy rate per 10,000 is as follows: Miners, 4.5; clergy and travelers, 12; farmers, 5; doctors, and charwomen, 15; domestic servants, 11.

Elaborate preparations have been made for the forthcoming census of the United Kingdom which will be taken on March 31st. These have been in progress more than a year. More than 2,000 local registrars have been appointed. Under each of these is a number of enumerators whose divisions are so planned that each includes about 300 families or 1,500 persons. In England and Wales, with a population of about 32,000,000, if each enumerator dealt with 1,000 persons, 32,000 would be required, but the cases of sparsely-populated parishes in which this number cannot be undertaken are so numerous that it is estimated that 40,000 enumerators will be required. After each registrar has completed his "plan" he will send it to a superintendent registrar. Of these there are 635. These officers after careful revision and correction will send the plans to the Government offices at Somerset House. Here they will again be subjected to a rigid examination in order to ascertain that each district is complete in itself, of suitable size, has no confusion of areas, and has a simple walking boundary which cannot be mistaken. The duty of the enumerator is to leave a schedule for every occupier of a house. On April 1st he will collect the schedules and help occupiers with advice. Between April 1st and 8th he has to copy every particular from the schedules into an enumeration book and to make certain summations. Between April 8th and 22d the registrars have to check and revise the work of the enumerators. The books will then be passed on to the superintendent registrars who have to satisfy themselves that the work has been properly done, and forward the books to the Census Office by April 27th. The headquarters staff will amount to 200 and will consist of civil-service clerks.

A unfortunate fatality has occurred during the administration of an anesthetic by a dentist. A healthy miner went to have eleven teeth extracted. The dentist administered nitrous oxide and ether, a nurse only being present. The teeth were successfully removed and sponges without attachment outside the mouth were used to press on the gums to check hemorrhage. The man sat listlessly in the chair for two or three minutes after the operation, then sprang to his feet, drew a deep breath, and gasped for air. As signs of asphyxia were evident, the dentist felt digitally for an obstruction and finding none commenced artificial respiration. Death ensued. At the necropsy a piece of sponge was found below the vocal cords. Commenting on this case *The Lancet* insists on the desirability of two medical men being present even when only a trifling operation has to be performed under an anesthetic. When the operator is a dentist it is even more necessary that a doctor should give the anesthetic. Further, in every case in which an anesthetic is given tracheotomy or some other operation of emergency may be necessary. A dentist is not competent to perform such. Hence a medical man should always be present. Tracheotomy might have saved life in this case.

TRANSACTIONS OF FOREIGN SOCIETIES.

German.

ETIOLOGY OF CARCINOMA—GONORRHEAL ARTHRITIS—TRAUMATIC CARDIAC DILATATION—POSTOPERATIVE TETANUS—TRAUMATIC LACERATION OF THE CARDIAC VALVES—METHYL BLUE AND RENAL ACTIVITY—MYELOMA AND ALBUMOSURIA—REYNAUD'S DISEASE—COMPENSATION IN ATAXIA—RUPTURE OF THE SPLEEN—ALBUMIN AND ACETONE—LUMBAR HERNIA—HYPOPHYSIS CEREBRI AND ACROMEGALY—SEQUELÆ OF PERTUSSIS—NASAL POLYPI AND THEIR EFFECT ON THE NASAL BONES—OBTURATORS AND THE ANTRUM OF HIGHMORE—ACUTE GONORRHEAL MYELITIS.

VON LEYDEN, at the Gesellschaft der Charite-Aerzte in Berlin, November 8, 1900, exhibited various preparations and specimens of carcinoma and discussed the germ-theory of the cause of these neoplasms. The establishment of such a hypothesis rests on the results of inoculation (Klebs, Hanan and others) and on the discovery of a microscopical parasite. The latter point has already been carefully studied, as, for example, by Scheurlen, Schueller, Leopold (Blastomycetes) and by the author himself, who, in an example of carcinoma of the abdomen, in the ascitic fluid found moving

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cells with active processes which in common with Schaudim he considers amebæ. His experiments to obtain cultures from sections of the neoplasm have given no satisfactory results, beyond affording a good opportunity of studying the amebæ. From the type of movement and from the peculiarities of the pulsation of the vacuole they present no diagnostic features, but they appear to be definitely recognizable from their nuclei which may be compared to a bird's eye, through having a dark central spot surrounded by a bright band and then by a dark band. These amebæ are without demonstrable capsules, but lie as naked masses in the protoplasm of the cells, from which they are with great difficulty distinguishable. The author claims that through fixation, oxidation with peroxide of hydrogen, staining with saffranin, methyl violet and orange G., he has been able to prove the presence of these amebæ in the cells of carcinoma also. They are analogous to the sporozoa (plasmodiophora) discovered by Russian investigation as causing various conditions in the cabbage, and they occur in the cell-bodies close to the nucleus which itself shows no evidence of degeneration or division. From the pictures presented by various preparations, which he claims are ameba-like protozoa, he seeks to make them analogous to the plasmodiophora and regards them as the cause of cancer.

LAQUEUR, at the meeting of November 22d, brought forward a young girl with gonorrheal arthritis of the right elbow. In the exudate many cocci were found. Rapid cure followed faithful use of the hot-air bath method.

STRAUSS reported a case of a young adult who in 1900 passed through an attack of the grip and soon after that received a trauma in the cardiac region, promptly followed by considerable dilatation of the heart, especially to the left. Bodily exertion increased it. The chief symptom was dyspnea. The valves were intact. In the discussion Brandenburg spoke of one of his patients who went through a similar experience with a cardiac neurosis. Oestreich considered it would be difficult to demonstrate a direct connection between the trauma and the cardiac lesion.

MENZER gave notes on a case of tetanus after a gynecological operation. A vaginofixation, notwithstanding most careful preliminary and operative antisepsis, was followed in seven days by a fatal tetanus. In the secretion of the wound the bacilli of tetanus were abundant. Blumenthal, discussing the subject, advocated the regular injection of anti-tetanic blood-serum before every operation upon the female genitals. In the French colonial forces such prophylactic procedure among the wounded had proved very efficacious. Jacob added that dural infusion is better than the subcutaneous.

F. STRASSMANN, at the Verein für innere Medicin in Berlin, November 19th, detailed the autopsy of a case of traumatic laceration of one of the aortic valve cusps. R. Stern recently stated in his new work that well-established cases of traumatic tears in the valves of the heart are not known, whereas the French authors state just the opposite. Moreover they teach that compensation for the error due to the valve leakage can scarcely occur and that therefore death usually follows very soon upon the lesion. Therefore any case of proved traumatic damage to the valves is of great value. In this instance it is a pity that more is not known of the course of the condition. The patient was a hostler, sixty-five years old, always in very good health, without known cardiac trouble, and able to care for a stable of sixteen horses. On November 24, 1899, he was kicked in the chest and in the left forearm by one of the animals. Two months later his physician discovered an insufficiency of the aortic valves, which he attributed at once to the accident; but on consultation it was decided that it was due to the lighting-up of an old endarteritis. On March 24, 1900, he died. An inquest showed a break in the ribs over the right chest and its cardiac area where the cartilages join the ribs. The two leaves of the pericardium were fully adherent. The heart, especially to the left, was much enlarged, In the first part of the aorta was a transverse tear about two centimeters long, corresponding with the situs of the valves, and involving the intima completely and the media partially. In the valve cusp, over this tear, was a laceration which extended from one border to the base and turning angularly upon itself almost to the other border. There were no other changes in this or the other cusps, except that the one next over the wound in the vessel-wall was slightly adherent to the damaged valve curtain. The aorta was very little sclerosed. The blood-pressure had not been enough to cause a dissecting aneurism. A hernia in the abdominal wall also seemed to have been caused by this trauma.

FRAENKEL stated in the discussion that R. Stern's position is surely not tenable, because he had himself seen a case like the above and another in which the aorta was torn off short.

LIPMAN-WULF gave the results of his experiments with methyl blue as an index of the activity of the kidney function. He followed the plan of the French who had sought to establish the fact that the rate of excretion of the blue in the urine, after hypodermatic exhibition, is the guide to the health of the organs. P. Ehrlich has recently shown that a certain proportion of the coloring matter is changed in the body to methyl white. With this observation the author agrees and concludes that the method is not at all reliable as showing the state of the kidneys.

KALISCHER, at the meeting of November 26th, presented the ribs of a woman dead of myeloma and albumosuria. She was sixty-two years old and had been sick for about sixteen months. One of four daughters had died of pernicious anemia. The onset was with pain in the left, later the right side too, at first spasmodic like neuralgia, later continuous. Diagnosis, hysteria. The pains increased. For a year she had been confined to the house and for three months to bed. Albuminuria was now present. At this time Kalischer first saw her and found tenderness along the lower rib and con-

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cluded that he was dealing with some hysterical or neurasthenic manifestation. Continued emaciation and prostration were apparent. Further test of the urine showed that it contained albumose, namely, that the cloudiness or precipitate on boiling disappeared if boiled still more. Then another examination of the ribs showed that the ribs were soft, unduly bendable and prominent, and that the scapulæ and sternum were thickened. Blood tests showed a slight leucocytosis, nothing else. A partial section revealed prominence of the ribs, thinning of their walls, increase of their medullary canal, red marrow of semifluid consistence and inclined to flow out of the medullary space. The ribs were broken in several places. The medulla of the right humerus was normal. Microscopically the costal marrow showed only increase in the colorless elements, such as occur in myeloma. The nervous symptoms appear to have been analogous to those in carcinosis, by irritation.

LIPPMANN exhibited two cases of symmetrical gangrene (Reynaud). A servant-girl who was much engaged in washing and in hanging out the clothes plunged her hands into hot water while they were thoroughly chilled. Since that time cold has been well nigh unbearable, because her hands became at first livid, then blue and very painful. Occasionally small parts are cast off without secretion. The fingers are shortened, thickened, nails flat, sclerosis marked, and full flexion impossible. Röntgen rays show bone-atrophy which is most marked in the first phalanges which have nearly disappeared. The other case concerned a fifty-four-year-old woman with considerable dulling of the mental faculties, all the senses are decreased. Onset about nine months ago. This year an isolated gangrene of one finger appeared with loss of the first phalanx. This was attributed by the patient to trauma while chopping wood.

BICKEL detailed his instructive experiments on dogs as to the compensation of the brain in sensory ataxia, which he made in collaboration with P. Jakob. Ataxia can be produced in dogs by division of the posterior nerve-roots (Leyden) and thereafter follows a muscular degeneration. Improvement in such conditions occurs as has been proved by Merzbacher, apparently because the other intact brain organs have an influence upon the extremities. To such belongs the Labyrinth, as the physiologist Ewald has shown (*Ewald's labyrinthtonus*. The author has himself found that if in dogs, which have had ataxia produced by cutting off the posterior nerve-roots and have then reached the stage of compensation and partial recovery, the labyrinth is extirpated, a recurrence of the ataxia appears, which is then irremediable. In a similar way other parts of the brain can act as substitutes, as, for example, the eye and certain parts of the sensory element of the brain itself, notably the sensory convolutions of the cortex, and perhaps the optic thalamus, corpora quadrigemina and cerebellum. The possibilities of the compensatory influence of the sensory cortical cells, the author in company with Jakob investigated also in dogs. They produced ataxia of the hind legs by the same method as above, namely, in the spinal canal, and then of the front legs by cutting out the appropriate regions of the brain itself. After some improvement in the former had begun. In this way various differences were noted. The discussion of this paper was postponed.

KAREWSKY, at the meeting of December 3d, presented a twelve-year-old girl who a year ago was crushed against a wall by a wagon and sustained thereby fracture of several ribs and peritonitis, supposed to have been due to rupture of the intestines. Conservative treatment was followed and cure apparently reached. About twelve days after her discharge she again was taken sick with left-sided abdominal pain, tenderness and swelling, with fever. All symptoms and signs pointed to a subphrenic abscess and exploration evacuated a large, foul focus in which was found the spleen ruptured entirely out of its capsule. It was thereupon ablated. Cure followed. Present examination of the blood was negative. No investigations of it had been done before.

VON LEYDEN exhibited the heart of a girl suddenly dead after diphtheria. In addition to the degenerations usually present in these cases, there were thrombi scattered through its walls and an embolus in the pulmonary artery.

F. BLUMENTHAL and C. NEUBERG contributed an instructive fact to the much vexed question as to whether in diabetes, carcinoma, starvation and other conditions, the acetone present cannot have its origin in albumin. These investigators have been able to make acetone out of egg-albumin experimentally. Salts of iron were the containers of the oxygen and peroxide of hydrogen was the actual source of it.

M. G. BORCHARDT, at the Berliner Medicinische Gesellschaft, November 29th, presented a fifteen-month-old child with well-developed lumbar hernia. Of this rare condition forty-seven have been reported in literature. Their exit is usually through the trigonum Petit, through the trigonum lumbale superius, and occasionally through other weak spots of the parietes. In the etiology traumatism plays a very important part, then pus foci, especially gravitation abscesses, and, finally, congenital defects. Seven examples of the last-named cause are on record and this makes the eighth. The child presented a large lateral swelling of variable size, but usually that of a child's head, impulse on coughing marked, completely reducible, but presenting no real hernia ring. Its contents were intestine, spleen and the left kidney. At first the mistaken diagnosis of a cold abscess was made, but the child contracted a marked bronchitis which through the incessant cough revealed the true nature of the condition. Immediate operation was contra-indicated, first because of the bad cough and second because the child is so feeble. A reduction and suitable bandage were the present treatment. Operation will be done in a few years. years.

C. BENDA, in discussing the connection between lesions of the hypophysis cerebri and such diseases as cretinism and acromegaly, stated that he

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had examined its normal and pathological anatomy at length. By means of new staining methods he has discovered small granules in the cell bodies of the organ, which hitherto have not been described. In a case of cretinism he has found a decrease in the number of these bodies and a somewhat similar condition in Basedow's disease. In the brain of a dwarf he found a teratoma which occupied the sella turcica and invaded the hypophysis. In four patients with acromegaly he found profound changes in the hypophysis, once an angioma and three times tumor-like aggregations of these highly granular cells. It appears to him that there is direct connection between the lesions of this cerebral organ and acromegaly.

ARNHEIM, at the meeting of December 5th, described a case of pertussis in a child, four years old, which in its course developed stiffness of the neck, fever, rigidity of the extremities, numbness and slowing of the pulse. These could not be connected with a contemporary chronic otitis media purulenta with perforation, and were therefore attributable to the pertussis. After the period of fever had disappeared and consciousness had been recovered, there remained a slight degree of paresis in each of the extremities. This improved somewhat until now there are distinguishable a very moderate ataxia and disturbance of the speech. The contributor holds that this is an analogue of the paresis and paralysis seen in severe diphtheria, due to toxins.

TREITEL showed a man in whom the nasal bones were much spread apart and everted, through the presence of abundant, dense nasal polypi.

P. HEYMANN displayed an obturator which, after the evacuation, drainage and cure of an empyema of the antrum of Highmore, had been applied to close over the operation wound. The result was that a most foul empyema occurred much worse than the first. Hence such devices are dangerous.

VON RAD, at the Aerztlicher Verein in Nüremberg, March 15th, gave the following outline of a case of acute gonorrheal myetitis recently observed by him. The man was thirty-two years old, suffering from a chronic gleet and had had a soft chancre when he was infected with an unusually violent and virulent fresh attack of gonorrhea. After four days he was suddenly attacked with weakness of the lower extremities and very soon afterward with combined retention of urine and feces. November 19, 1899, physical examination revealed these conditions: Active pain, but only moderate tenderness from the fourth to the ninth dorsal vertebra; marked weakness in each lower extremity so that only with the greatest effort can the patient take a few steps and then falls; the reflexes of the soles and tendons of Achilles are normal, of the knees are much exaggerated, while those of the abdomen and cremasters are absent; the patellar clonus is absent on each side; sensory disturbances are slight, with no paresthesiæ, but with moderate confusion between the point and the head of the pin; the bladder is very greatly distended and paralysis of that viscus and of the rectum is well established; the pulse is normal; the temperature elevated; there are no disturbances of the upper extremities or of the cranial nerves. That same afternoon complete paralysis of the lower extremities set in which was proved on examination the next day. The reflexes at the knees and ankles and of the skin are abolished, except a very feeble plantar reaction; the pains in the back are absent, but severe paresthesiæ have appeared; sensibility for the stroke of brush and needle is much disturbed; the zone of these disorders extends to about a handbreath above the navel. Further were noted the persistent and absolute vesical and rectal paralysis, so that catheterism and enemata were absolutely necessary; the advent of a very active and obstinate cystitis, and of bedsores over the sacrum in spite of all care, of clonic spasms and tremors in the muscles followed by atrophy, and of the electrical reaction for degeneration. It was finally necessary to put the patient upon a water bed to keep the bed sores in check. Death followed early in 1900. No gonococci were found on lumbar puncture, but the onset makes it obvious that these germs were the source of the infection.

SOCIETY PROCEEDINGS

HARVARD MEDICAL SOCIETY OF NEW YORK CITY.

Stated Meeting, Held November 24, 1900.

Howard Lilienthal, M.D., Chairman *pro tem.*

Rapid Elimination of Gonococcus.—Dr. Follen Cabot read a paper describing a method for the rapid elimination of the gonococcus. He said that two things are of importance in the treatment of gonorrhea, the avoidance of complications and the elimination of the gonococcus. Much has been written and promised in recent years with regard to methods that cause an early disappearance of this micro-organism. All of the methods thus far presented seem, however, to induce complications because of a certain amount of violence that is exercised on the delicate mucous membrane of the urethra. Other methods have proved too gentle in their action and so have caused the disease to become inveterate. Dr. Cabot's method secured the disappearance of the gonococcus in from eight to ten days in seven-eighths of the cases in which it was used. In the other eighth the course of the disease did not seem to be affected either favorably or unfavorably.

Review of Methods.—One recent method that has been employed for shortening the course of gonorrhea consists in washing out the anterior urethra and then with a cotton swab through a speculum touching inflamed points with a solution of nitrate of silver. A second method was that introduced by Janney in which irrigation of the entire urethra was accomplished by securing the relaxation of the compressor muscle of the urethra and allowing the solution to find its way

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into the bladder. From the bladder its subsequent ejection gives a second washing to the urethra. For a time this method seemed to promise very favorably, but it proved to be too violent for most urethræ and induced complications. A third method consisted in the use of the double-flow nozzle, the outflow of which was larger than the inflow. Observation showed, however, that once the urethra becomes distended by the irrigating fluid very little interchange takes place between the inflowing solution and the column of fluid in the urethra itself. A short circuit of the fluid is formed between the two branches of the nozzle and the column of fluid in the urethra remains almost absolutely stationery. Certainly the method is no better than an ordinary hard rubber syringe. A fourth method makes use of a soft catheter, which is inserted into the urethra while the solution flows back along the instrument to find its way out at the meatus. By this method some of the solution originally introduced remains in contact with the urethra, that is to say, friction retains a layer of solution just over the mucous membrane. In this way the gonococci just beneath the surface of the mucous membrane or lying between the cells are protected from contact with the stream of fluid and so fail to be washed out.

Gonococci and Silver Salts.—Dr. Cabot proposes a combination of the good features of these methods. For the injection, in accordance with the old tradition that makes the silver salts the best antiseptic against gonococcic infections, Dr. Cabot employs one of the silver salts. In order to decide which one of the silver salts is most effective he made a series of observations upon their antiseptic qualities. A one-per-cent. solution of argonin kills gonococci in twenty-four hours; a five-per-cent. solution absolutely prevents growth. Solutions of protargol of corresponding strength give about the same results. On diphtheria bacilli the same effects are produced. No observations were made as to the effect of these solutions on cultures of the gonococci. When cultivated on artificial media the gonococcus is a very weak and delicate organism, so easily affected by unfavorable influences that its destruction constitutes no test of the influence of a remedy on this organism when growing vigorously in human tissues.

Technic of Treatment.—Cases of gonorrhea that come for treatment during the first twenty-four hours can be greatly relieved and the gonococci made to disappear from the discharge without fail in the course of a few days. When the gonococci have penetrated, however, beneath the superficial layer of the mucous cells, it is almost impossible to remove them completely and the case is sure to become more or less chronic. At the patient's first visit, before any treatment is instituted, a specimen of the discharge should be taken for examination. Then the patient should be asked to urinate and after this the urethra should be washed out with warm water. A solution of argonin, 5-10 per cent., should then be injected deep into the urethra by means of a bulb syringe. About six drams of the solution should be employed and it should be retained within the urethra. Gentle kneading of the penis should be employed to bring all parts of the urethral mucous membrane in contact with the solution. As the solution is allowed to escape an applicator with a ten-per-cent. solution of argonin should be used to wipe out the urethra. If this is inserted while the solution is still retained within the urethra no difficulty will be experienced and no pain produced. Cocaine should not be used to deaden the pain as injury of the delicate urethra is thus rendered easier.

Other Treatment.—Citrate of potash should be used plentifully to render the urine bland. The penis should be thoroughly soaked in warm water about three times a day. Where the case presents a copious discharge, this prescription may be given:

℞ Plumbi acetatis.....
Acid. tannic.....
Zinc. sulphat.....
Cupri. sulphat.....aa. grs. ij

This should be prepared in tablet form and the tablet should be dissolved in four ounces of water and used after each urination. When this system of treatment is followed the gonococci have usually disappeared at the end of a week and the discharge ceases in from eight to ten days. Examinations for gonococci are made every two days. The solutions that are employed should be hot, the temperature being not less than 110° F.

The Newer Silver Salts.—In the discussion Dr. Fuller said that the recently-introduced silver salts, caseates and so forth, have proven to be especially unirritating to mucous membranes. There is no doubt that the silver salts are the most efficient agents for the destruction of gonococci. Silver nitrate, however, nearly always proved too irritating. The old abortive treatment by the use of strong solutions of silver nitrate, if it did not succeed in destroying all of the gonococci present, left an extremely favorable soil for the growth of the gonococcus. The inflamed tissues presented the most favorable culture medium and the resistive vitality was very low. Argonin, while quite as efficiently antiseptic as nitrate of silver, is practically non-irritant. If a case of gonorrhea comes for treatment before burrowing of the gonococci has taken place there is a good chance for the abortion of the disease by the use of this agent. Many of the methods of treatment suggested, as, for instance, the irrigation method, seriously disturb the urethra. Of course very few patients will consent to make two visits a day to the doctor. As soon as the discharge becomes but slight, the patient bolts and then relapse ensues and the gonorrhea assumes a chronic condition. Whenever the inflammation extends as far as the bulbous portion of the urethra, all attempts at abortive treatment, or any irritative local treatment, should cease. Abortive treatment to be successful must be begun early.

Success in Abortive Treatment.—Dr. Howard Lilienthal said that the absolutely essential con-

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dition of success in the abortive treatment of gonorrhea is to kill all the germs present by the first injections. If any of the gonococci escape the antiseptic, the subsequent course of the gonorrhea is always made worse, as the micro-organisms find a most favorable nidus in the irritated tissues. This was especially true under the old method of the use of nitrate of silver. Argonin does not produce so much irritation, so that the new method of treatment deserves a trial. Some other way of combating gonorrhea than by direct killing of the gonococci is needed. Gonorrhea is recognized generally as a self-limited disease. Some change takes place in the blood and the tissues which makes them an unfavorable breeding-place for gonococci. Perhaps it is not too much to expect that at some time a specific will be found which will produce a corresponding action through the circulation. This specific may prove to be a serum that will kill the germs even though they may be deep in the layers of urethral tissue.

Gonococci and Temperature. — Gonococci grow only in a very limited range of temperature. Whenever the medium in which they are growing is kept at a temperature much above 105° F. they perish. Because of this Dr. Lilienthal hoped some years ago to abort gonorrhea by raising the temperature of the penis above that at which gonococci usually live. By means of coils and even continuous irrigation the temperature of the urethral tissues was raised. The gonorrheal discharge ceased under the treatment, but came back as soon as the temperature was allowed to sink to normal.

The Oleoresins.—Dr. Lilienthal said that the oleoresins—cubebs, copaiba and sandal-wood oil—seem to exert a specific action on the discharge of gonorrhea. The secretion from the inflamed urethra is certainly much less while these drugs are being administered. It is usually said that this diminution in the discharge is due to the fact that the oleoresins make the urine bland. The administration of copious draughts of water suffices to make the urine bland, but does not affect the discharge in the same way as the administration, for instance, of sandal-wood oil. Dr. Lilienthal has seen the discharge stop and then when the sandal-wood oil was discontinued the discharge reasserted itself. It disappeared later, when the sandal-wood oil was resumed, but reappeared as soon as the administration of the drug was stopped. Unfortunately, while the oleoresins limit the amount of the discharge, they do not cause it to stop entirely and so fail of the proper purpose of curing gonorrhea.

The Silver Salts.—Dr. Frederic R. Sturgis said that there is no doubt that the silver salts have a specific action upon gonococci. This gave nitrate of silver its old time popularity. But this special drug is too irritating for most urethras. It must be remembered, however, that the first inch of the urethra is much more sensitive than the deeper parts. Application of twenty-per-cent., thirty-per-cent., and even fifty-per-cent., solutions of nitrate of silver have been made in deeper parts of the urethra without producing any reaction. The recently-introduced silver salts without irritating properties must be the choice in the present-day treatment of gonorrhea. Of these the best seems to be protargol, and after this argonin. These salts should be used in a solution of at least five-per-cent. strength, and a ten-per-cent. solution makes a good average remedy for ordinary practice. Irrigation undoubtedly does as much harm as good. It irritates and inflames the canal and so renders the disease inveterate. There is not much danger in washing infective material back into the bladder, if the urethral canal is well cleaned out. When the patient urinates afterward the lips of the meatus should be held together for a moment so as to secure the natural flushing effect of the dilatation of the canal thus produced. Dr. Sturgis does not use a swab after the injection, but makes applications through the endoscope. These always do good and never harm unless the anterior urethritis is very acute. Then, of course, no endoscope should be employed.

Temperature of Injections. — Dr. Sturgis thinks that the injections should be given at as high a temperature as the patient can stand. This should always be 120° F. and can often be even 140° F. When the doctor can not bear to keep his hand on the syringe the patient may make no complaint of discomfort, but on the contrary may find the warmth rather pleasant. If the discharge is more than forty-eight hours' duration when the patient comes for treatment, there is no prospect of the abortive treatment being successful. Dr. Sturgis has not had cures in less than fourteen days.

In closing the discussion Dr. Cabot said that in the cases in which he had succeeded in successfully aborting gonorrhea have come within twenty-four to thirty-six hours after the first symptoms. The heat of the injection is important and should be as high as can possibly be borne. The strength of argonin solutions may be increased very much without producing irritation. Dr. Cabot has used thirty-per-cent. solutions without producing more unpleasant effects than with ten-per-cent. solutions.

Dr. Brewer said that when the oleoresins are administered injections into the urethra are borne much better than when this medication is neglected.

Ruptured Spleen.—Dr. N. B. Potter reported a case of ruptured spleen which he had seen during the week. The patient, a South American, was first seen on Monday after he had had a chill. His temperature was found to be 103.4° F. On Wednesday there was another rise in temperature and the spleen was found to be very much enlarged. The patient was very anemic, but there was no apprehension as to a fatal termination. During the afternoon of Wednesday serious symptoms developed, signs of internal hemorrhage showed themselves, and before surgical aid could be rendered the patient died. At the autopsy death was found to be due to rupture of the spleen. About half a pint of blood was found in the peritoneal cavity. Cases of spontane-

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ous rupture of the spleen are rather rare. Very slight trauma is sometimes sufficient to produce rupture in the acute enlargement of the spleen due to severe malaria. So simple an act as defecation or sitting up in bed can prove the immediate cause of rupture of the spleen.

Was the rupture of the spleen in this patient caused by manipulation during examination of the patient? All of the manipulations were done very gently and the symptoms of the rupture did not begin immediately after the examination, but several hours later. Moreover, the tear in the capsule of the spleen was not on the anterior portion, but was well back beneath the ribs. Besides, the appearance here was that of spontaneous fracture, for there seemed to have been a hemorrhage within the spleen, the pressure of which finally caused a tear in the capsule. Rupture of the spleen occurs usually only in tropical countries and in regions where severe malarial fever abounds, as in certain parts of Italy.

Omental Cyst.—Dr. Brewer reported a case of a child, six years of age, who was operated on for what was thought to be tuberculous peritonitis. The little patient had been under treatment for six or seven weeks in the medical ward and besides moderate fever had considerable abdominal distention. A distinct wave of fluctuation could be elicited and the liver was pressed up beneath the rib margins. Aspiration brought away a fluid slightly tinged with blood, and as the child's condition did not improve operation was decided on. When the child came to the operating-table it was noted that the enlargement caused by the presence of the fluid gave a distinctly fusiform or spindle shape to the patient's trunk. Some infiltration of the right apex had been noted and was considered sufficient to justify the diagnosis of tuberculous peritonitis. On opening the abdomen what was found was a huge cyst within the great omentum, the pedicle of which lay between the stomach and the transverse colon. The cyst-wall was so thin that it ruptured even on very gentle manipulation. The pedicle being ligated the cyst was removed and the patient recovered.

Dr. Gibson said that he had seen the same patient at St. Luke's Hospital where he came demanding an operation. In another patient he has seen the same inexplicable desire for laparotomy. When this individual came first he claimed to be suffering from recurrent appendicitis of which he had had, according to his own story, seven attacks. His appendix was removed and was found to be seven inches in length and quite thin, but seemed perfectly normal. The pathologist reported that it was absolutely normal. Later the same patient turned up at Roosevelt claiming that he was suffering from appendicitis and demanding another operation, later still he was heard of at Bellevue, bent on the same mission. It seems evident, then, that there is a class of cases in which patients morbidly exaggerate their symptoms with the purpose of having operations done for which there is no need.

In discussing the case Dr. Foote said that he had seen one cyst of the great omentum in the autopsy-room at Strasburg. Its nature proved a mystery until Von Recklinghausen himself was consulted, when he suggested a careful examination of the abdomen for hydatid cysts. After a good deal of search two small cysts were found in the lower part of the abdomen. In that case, as in Dr. Brewer's, the cyst-wall was very thin and almost transparent.

Dr. Coley said that he had once encountered omental cysts in a hernial sac. Several of them were drawn down with the omentum and carefully tied off.

Laparotomy Mania.—Dr. Foote reported the case of a young man who came to the hospital suffering from an obscure and, as he claimed, painful condition in the abdomen. His subjective symptoms pointed to some pathological condition in the right iliac fossa. Examination of his abdomen showed the presence of the scars of four laparotomy incisions. He claimed that he had been operated upon first in Russia and that something had been removed from his abdomen, although just what it was it was hard to make out. He had been three times operated upon in this country and it is evident that he has been making the rounds of the hospitals for the purpose of having abdominal operations done for imaginary or feigned ailments.

NEW YORK ACADEMY OF MEDICINE—SECTION ON MEDICINE.

Stated Meeting, Held December 18, 1900.

John H. Huddleston, M.D., Chairman.

Treatment of Acute and Chronic Alcoholism.—The first paper was by Dr. A. R. Braunlich, Interne at Bellevue Hospital, on Acute Alcoholism at Bellevue. Dr. Braunlich said that the cases of acute alcoholism which come for treatment may be divided into three classes. First, acute alcoholic intoxication; second, delirium tremens; third, alcoholic mania. Occasionally other complications of alcoholism are seen in the alcoholic ward—as melancholia, alcoholic neuritis, alcoholic epilepsy and epileptic mania, brought on by overindulgence in spirituous liquors. These last conditions are rare, however, for, as they are either chronic or need treatment especially for their mental trouble, they are usually transferred to other departments. The most frequent form of alcoholism is an emotional boisterous stage. This is treated routinely by a dose of thirty grains of potassium bromide and fifteen grains of chloral hydrate. These remedies are repeated in an hour if the patient's symptoms continue. The patient is persuaded to get to bed as soon as possible and after a few days of rest can usually be discharged without more ado.

Dead Drunks.—A second important class of cases are the dead drunks. For these a stomach-tube is used immediately after their entrance

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and their stomachs thoroughly cleared of any alcohol that may be present. External heat is then applied and the patients are rolled in blankets. One-thirtieth of a grain of strychnine is administered hypodermically and one to two minims of the fluid extract of digitalis. There often exists in these cases an acute gastritis with very persistent emesis, which increases the prostration and further disturbs the patient. For this morphine is given in doses of one-fiftieth of a grain, subcutaneously, every fifteen minutes to one-half hour, until the patient is able to retain fluid. Fluid is first given in very small quantities, not more than a dram of milk or water at a time. Even this is not repeated frequently, until retention is assured.

Delirium Tremens.—When symptoms of delirium are manifest in chronic alcoholic patients, the sudden withdrawal of alcohol has been found to be dangerous in certain cases. If symptoms of cardiac failure assert themselves, a little alcohol must be allowed as a stimulant to the circulation. Other circulatory stimulants should be freely employed. Of these aromatic spirits of ammonia and tincture of digitalis have been found most effective. It must not be forgotten by the advocates of the sudden and complete withdrawal of liquors that these remedies contain a certain amount of alcohol and that this is one good reason for the benefit they do. Strychnine is given hypodermically in doses of one-sixtieth to one-twentieth of a grain, according to the necessity for stimulation. Atropine is given in doses of one-one-hundred-and-fiftieth to one-fiftieth of a grain. Where there is much excitement sodium bromide is given in doses of thirty grains to one dram, one-eighth of a grain of morphine is given hypodermically and one-one-hundredth of a grain of hyoscine. A wet pack proves very soothing and its use will often obviate the necessity for the administration of strong hypnotic drugs. After the stage of excitement is past, forced feeding is the treatment especially indicated.

Forced Feeding in Alcoholism.—After an attack of delirium tremens, the patient must be tempted to take as much food as possible for at least a week or ten days. One of the members of the visiting staff at Bellevue uses so many eggs for his alcoholic patients that there has been a protest from the commissary department of the hospital because of the expensiveness of this article of diet at certain times. At least six to eight eggs a day should be used by convalescent alcoholics. They are the most easily digested concentrated food that can be used. After an attack of delirium tremens it must be remembered that patients are very prone to suffer from almost unquenchable thirst. Water should be given very freely then and nurses should be instructed to see that at least every hour some water is offered to the patient, or a fresh supply placed beside him. The aqua ammonii acetatis may be used freely and will be found to be very refreshing and stimulating.

Alcoholic Mania.—For this condition the best drugs to produce quiet are morphine and hyoscine. Patients need to be carefully restrained and usually require the services of a special attendant. Where the mania lasts for some time patients are not kept in the ordinary alcoholic ward, but are transferred to the insane pavilion. Alcoholic neuritis runs so chronic a course that very few cases are retained in the alcoholic ward. Epileptic mania due to alcoholism is transferred to the insane wards. All of these cases of mental aberation due to alcoholism should be closely watched as regards the development of organic disease and especially pneumonia. It must also be borne in mind that pneumonia in alcoholic patients often causes a delirium that may for a time simulate maniacal excitement and lead to a mistake in diagnosis.

Treatment After Acute Attack.—For the anorexia which so often follows an acute attack of alcoholism, a prescription containing ten minims each of capsicum, nux vomica and ginger is often of great service. For this state of anorexia and general relaxation, exercise in the open air has been tried, but it was found that where patients walked much their convalescence was slower. Rest is an important element in the treatment of the exhaustion which follows acute alcoholism. If the alcoholic gastritis is severe capsicum is contraindicated, because it is so irritant. In a number of cases of wet brain, lumbar puncture was tried. In some of the cases improvement followed, but there seemed to be very little if any direct effect. At the beginning of excitement such as may come on sometime after an excess and its effects have passed off, thirty grains of bromide and fifteen grains of chloral repeated if necessary will prove a useful remedy. In general forced feeding and sufficient stimulation are the important element in the treatment of alcoholic cases, after acute symptoms have passed off.

Classification of Chronic Alcoholism.—Dr. T. D. Crothers of Hartford, Connecticut, said that all inebriates may be grouped under three heads: (1) The paroxysmal, (2) the delusional, and (3) the senile, or demented. Under inebriates are included all who take alcohol to excess. Alcoholism means simply a poisoning of the system. Inebriety is a pathological condition having a definite cause and recognizable symptoms and the taking of alcohol to excess is usually only one of its symptoms. Paroxysmal inebriates are those who take alcohol to excess periodically and then abstain sometimes for long intervals. The intervals are often regular, but may be irregular. There is often a precise uniformity in the return of the impulse to take stimulants, which it is difficult to understand. The attacks are sudden, and there seems to be a distinct neurotic cycle in the organism. A man of distinction, who suffers from periodical attacks of inebriety, has his impulse to take stimulants return every ninety-one days and some hours. At that time no consideration is able to in-

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hibit the impulse. It is a true insane idea, an imperative emotion. When such attacks recur, they often come without premonitions. After some experience, however, the patient is able to recognize that an attack is coming. If he should be prevented from procuring stimulants an almost maniacal state develops. Another intelligent patient has his impulse to take alcohol return every ten months. He has put himself under a doctor's care several times, but has not succeeded in preventing a return of the morbid impulse. Many patients conscious of these recurring impulses go to a hotel in a distant city for some days, drink to their satisfaction in their rooms and then return to business. Others go to sanatoria and reformatories in the hope to put off the temptation.

Causes of Alcoholic Impulse.—These drink-storms return at such irregular intervals in most cases that it is often hard to determine their causes. Usually a condition of exhaustion has supervened in the patient just before the impulse takes possession of him. Often the attack is preceded by a period of overwork, nervous strain, mental worry. Often it is accompanied by unusual excitement and mental disturbance. Such patients, if interfered with, have moments of destructiveness and are prone to use abusive language, though at other times they may be utterly unaccustomed to it. This condition represents the true dipsomania. A thirst for spirits seldom grows into this maniacal impulse. The dipsomaniac may have more or less repugnance to alcohol between his attacks. The neurotic basis of the affection is thus made clearer and the necessity for its treatment as a nervous and mental condition made more emphatic.

Delusional Inebriates.—The first symptom of this condition is often an increased confidence in the part of the patient in his power to overcome the drink thirst. He knows that he has tendencies to take more spirituous liquor than is good for him, but feels sure that whenever he wishes he can break up the habit. This delusional condition extends after a time also to other subject-matters. The patient is sure that he is able to accomplish other things quite beyond his power. When on any special occasion he fails to overcome his habit he offers the most childish explanations and considers them amply sufficient. Some of the reasons given are the typical reasons of insane minds. At times in these cases, paresis develops and the picture is one of delusions of grandeur. As a rule such patients develop a boundless confidence in remedies of all kinds and especially drink remedies. The more secrecy is attached to a method of treatment the surer are they of its efficiency. These constitute most of the class of people who set themselves up as examples of wonderful cures. Their relapse into their old habits is only a matter of time. After a while such patients develop other delusions, especially those of persecution. They insist that friends are forcing them to suicide. Electricity appeals strongly to their imagination and they are frequently convinced that friends are using electrical contrivances on them for the purpose of torturing them. Such patients are prone to intense jealousy. As the result of these delusions of persecution they may themselves in turn become persecutors and commit violent acts.

Senile or Dementic Alcoholics.—These are patients usually of feeble mentality who drink almost without purpose. Where alcohol is not easily obtained they do not take it. They do not drink while in the country, but drink almost continually in the city. Very often these patients are degenerates from birth and the wear and tear of life would seem to have used up all their will power. Sometimes this senile or dementic alcoholism develops as the result of brain injuries or shocks. This traumatic form is rather easily recognized. At times dementic alcoholism is the result of exhausting disease. Not infrequently it is the terminal stage of the paroxysmal form of inebriety. Sometimes such patients go into the saloon business for no other purpose than to be in a position to take stimulants at all times.

Treatment.—The first and most important element in the treatment of inebriety is thorough control of the patient under circumstances that make the getting of alcohol an impossibility. For this to be successful a change of surroundings and external conditions with a home among strangers is absolutely necessary for severe cases. An asylum at a long distance from his home is the best beginning of the treatment. If the patient is in the midst of a paroxysmal drink-storm when he comes under treatment, the question of the withdrawal of spirits is of importance. Notwithstanding the tradition in the matter, the sudden withdrawal of spirits will not cause delirium if baths and salines are used freely. The taste for alcohol may be overcome by giving two ounces of quassia every two hours, until a feeling of disgust for alcoholic drinks is produced. Other bitter tonics, notably cinchona, produce this same effect. An adjuvant remedy in these cases is apomorphine, which may be used in doses of one-sixtieth of a grain, until nausea is produced and this will limit the craving for alcohol. The stimulant effect of alcohol may be replaced by nux vomica, given in good quantities. A quarter-of-a-grain pill may be given every two hours.

Poisoning and Starvation.—After the effects of an attack of acute alcoholism have passed off two serious conditions usually remain. One is a poisoned condition of the system due to the presence of alcohol and its produces in the tissues—the other is starvation due to the anorexia. The poison should be eliminated from the system as rapidly as possible. For this hot-air baths, or, if these depress, electric-light baths should be employed. Electric-light baths are given by placing the patient for some time in a flood of electric light. It has been shown that perspiration occurs more freely, even at the same temperature of the room, when the skin is exposed

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to strong light. A rapid and intense elimination of poisonous products occurs through the skin. After this free sweat a feeling of exhilaration takes the place of the sense of depression, the patient becomes more restful and sleeps well.

Latent Organic Disease.—Alcoholic excesses often lead to the concealment of organic disease until these affections have developed to an alarming stage. This is especially true of tuberculosis. The effect of alcohol and of the toxin of tuberculosis are not unlike. Members of the same family that suffer from the toxins of alcohol and from the toxins of tuberculosis may exhibit similar symptoms. This accounts for the insidiousness with which the tuberculosis may develop.

Narcotics.—Narcotics must be used with caution and so far as possible only the milder drugs of this type employed. Lactucarium, lupulin and valerian are important drugs in this respect and will produce much more quieting effects than is usually thought. Bromide of soda is a useful remedy and is preferable to the bromide of potash, but should be given in sufficiently large doses. Where marked restlessness exists fifty to one hundred grains of the drug should be administered at a dose. If syphilis exists with the alcoholism, mercury and the iodides must, of course, be given. They will then be found to control many of the symptoms which were supposed to be due to the alcoholism and will save the use of strong narcotics.

General Treatment.—Arsenic is a very good remedy for its general tonic effect. Phosphate of soda should be given continuously for some time after an acute attack of alcoholism. It acts as an hepatic stimulant and its eliminative action makes it very valuable. The other indications are for rest, food and frequent warm baths. These baths are particularly useful because of their eliminative action. The mental treatment of alcoholics is important. The influence of suggestion and good example must not be lost sight of and the patient must be provided with constant mental diversion so as to keep from brooding over his condition. There is no specific treatment for alcoholism. Sometimes the drink craze proves to be self-limited. The last remedy that has been used is then thought to account for the change that has taken place. The reason for the alteration in the patient's character seems to be some change in the brain material. The hope is that a change like this can be led up to by institution treatment.

Hypnosis for Alcoholism.—Dr. J. D. Quackenboss said that hypnotism is an efficient remedy in the treatment of alcoholism. It has not thus far been employed to the extent that its success justifies. Hypnosis reveals the fact that there is in human nature a dual personality. Each self has a distinct consciousness. The primary self is employed with the ordinary business of life. The secondary self is concerned with the automatic actions of life. It apprehends intuitively and does many things that the primary self is not able to comprehend. One personality does not shade into the other. They are essentially distinct, although they may influence one another for better or for worse. Hypnosis brings out the subliminal or submerged self. The influence of this personality can be employed to overcome the want of energy in the primary self. Dipsomania yields readily to hypnotic suggestion and in these cases hypnotism is as a rule easy of employment. During a state of intoxication hypnotism can not be employed. Just before a drink-storm, however, hypnotic suggestion may prove most effective. Most observers are agreed that there is an intimate relation between the use of tobacco and alcohol. When tobacco is used to excess the alcohol habit is usually a concomitant, and when drink-storms come on they have often been preceded by a period of greater use and abuse of tobacco than usual. The periodicity of dipsomanic attacks is quite marked. The longest period that Dr. Quackenboss has seen was three years. Often it will be found that spells of crankiness, lowered inhibition and lack of resistance to irritation, immediately precede the outburst of acute dipsomania.

Hypnotic Technic.—Once a patient has been brought under the influence of hypnotism, carefully thought out suggestions should be impressed upon him. He should be told, for instance, that alcohol will disgust him, that he will not be able to bring a glass of liquor to his lips, that the use of it with food will cause the food to disagree with him. Then the mental picture should be impressed upon him of the effects of alcohol. The meretricious attractions of the barroom should be set off by picturing to him, while in the hypnotic state, the delights of a chaste home-life. Apprehension of the results of alcoholism should be aroused and at the same time promises given of glorious success in his effort to overcome the habit. In giving these suggestions sincerity is absolutely necessary. They must be in the nature of an inspiration. The words must not be mere lip-work, nor a rote lesson. There must be a reciprocal transfer of personality. The hypnotic subject recognizes in his trance state at once any disingenuousness, or lack of candor that may be present. The consent of the patient must, of course, be obtained otherwise he will not respond to suggestion. It is not enough for him to come to receive hypnotic suggestion for the cure of his drink habit, merely because friends have insisted on it. He must have a sincere desire himself. While in the hypnotic state this desire may, however, be thoroughly awakened in a vascillating spirit. This can be done by pointing out the dangers there are in alcoholism. The treatment must not be abandoned too soon and it must be remembered that it does not guarantee against relapse. No remedy nor set of remedies that we have will guarantee against relapse in any disease. As in rheumatism, tonsillitis, and diphtheria, one attack of dipsomania predisposes to others. Even though the patient is cured for the time the dis-

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ease may return. In addition to hypnosis other therapeutic methods should be employed at the same time. The patient should be thoroughly stimulated by means of strychnine, or coca, if that is deemed necessary. In acute excitement and restlessness bromide of potash and chloral should be used freely. In the milder forms of restlessness the valerianates should be employed. In the last two years, Dr. Quackenboss has had under treatment forty inebriates. In about fifty per cent. of these cases that are still under observation there has been no relapse. The longest cured case passed from treatment about a year ago. Thirty-three per cent. of the patients have been lost sight of; seventeen per cent. are known to have relapsed; about one-half of these latter cases were known to be hopeless from the beginning. Where degeneracy exists and alcoholic deterioration of the brain has already taken place, hypnotism does not produce its usual effect and relapses are not infrequent.

In closing the discussion Dr. Crothers said that suggestion with or without hypnosis is very useful in the treatment of alcoholism. The damaged brains of alcoholic patients do not, however, hold impressions long. Impressions are only superficial. The pietist and the moralist have shown us how transient are the effects of suggestion, though they must be tried even unto ninety-nine times and occasionally they do produce lasting good effects. In answer to a question, Dr. Crothers said that after fifteen years about thirty-three per cent. of patients that have been under his care are without relapse. Some of the patients have been more than twenty years without taking liquor. In one case after eighteen years of abstinence the drink habit was reestablished. It is very difficult to give any prognosis in individual cases, or to calculate the average of cures.

NEW YORK NEUROLOGICAL SOCIETY.

Stated Meeting, Held December 4, 1900.

The President, Frederick Peterson, M.D., in the Chair.

Terminal Condition in Diplegia.—Dr. William M. Leszynsky presented a man, twenty-one years of age, in whom the chief feature of interest was a trembling of the hands, which had existed as long as he could remember. Nothing was known of his early history except that he had always been nervous. His mother had died of cancer of the uterus. The trembling had always been more marked on the left side, and his condition was apparently growing steadily worse. On careful examination no disturbance of sensibility could be detected. There was excellent muscular development on the left side and a spinal curvature, probably arising from the use of one side more than the other. There was no signs of atrophy. There was some asymmetry of the cranium. There was no disturbance of vision, but concentric contraction of the visual field. There was no nystagmus, and the pupils and fundi were normal. There was a positive tremor when at rest, and a more active tremor on motion. He holds the left arm in extension, but close scrutiny shows that all of the rigidity is in the extensors. The elbow-jerk was elicited only on the right side. Both knee-jerks were exaggerated. Ankle clonus had been demonstrated on both sides, although much more marked on the left. Dr. Leszynsky said that this man had probably recovered from a paralysis that he had had at one time, and was now suffering from a terminal condition of an infantile palsy. Undoubtedly there was a good deal of functional disturbance added to the organic trouble.

Dr. M. Allen Starr thought the case was an athetosis on the left side, and that probably the same lesion, to a minor degree, was present on the opposite side. It was apparently a post-diplegic condition.

Dr. E. D. Fisher looked upon the case as one of cerebral diplegia most marked on the left side, and with the athetoid movements often seen in such cases. This extreme muscular development seemed to him not at all uncommon in this class of cases. He would like to know concerning the electrical reactions.

Dr. B. Sachs said that there could be no doubt that the left side was the center of disturbance, and it was also probable that a part of the tremor was functional. The condition of the muscles in the scapular region seemed to him fully accounted for by the spinal curvature present.

Dr. F. Peterson agreed with the diagnosis of postparalytic athetoid form of movement. Where the paralysis was small he thought these finer movements were more apt to be present.

Dr. Leszynsky had not yet tested the electrical reactions. It seemed to him that this man could be benefited if properly trained. Hypnotism had been suggested, and it seemed to him worthy of trial. The method used for ataxics would probably prove beneficial; it had just been commenced.

Two Cases of Spinal Tumor, Operation and Removal.—Dr. M. Allen Starr said that five years ago he had been able to collect 145 cases of spinal tumor, in twenty-two of which operation had been undertaken. In the cases forming the subject of the present paper the symptom pain had been very prominent, and this together with the symptoms of pressure on the cord had allowed of the diagnosis being made.

Case I.—Mrs. E. W., thirty-five years of age, had been in good health previous to March, 1899, at which time she had begun to suffer at night from paroxysms of pain near the heart. They were not brought on by exertion, but were much increased by touching a region to the left of the nipple. From September, 1899, to May, 1900, she had been treated by many physicians for angina pectoris, hysteria and other disorders. Nitroglycerin had always intensified the pain.

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On May 10th Dr. Theodore Janeway had examined her and found her in an extremely nervous condition and suffering from constant pain. The left knee-jerk was exaggerated. Over the left side of the dorsal spine was extreme sensitiveness from the first to the eighth dorsal spine, and over the corresponding intercostal nerves at the angles of the ribs. There was no affection of the arms and the internal organs were normal. When examined by Dr. Starr on October 20th she was suffering much from pain at the level of the fifth and sixth intercostal nerves, much more marked on the left side. There was very marked tenderness over the dorsal region from the first to the seventh dorsal spine. A condition of partial anesthesia was found on the trunk and total anesthesia in the legs. Her legs were quite powerless, but there was no atrophy of the muscles. Ankle clonus was present on both sides, and both limbs were cold, blue and edematous. She had recently been unable to control the sphincters. Dr. Janeway had made a diagnosis of tumor of the spinal cord at the fifth dorsal segment. On October 22d she had been operated upon by Dr. McCosh at the Presbyterian Hospital. On dividing the dura an extremely edematous state of the wall was observed, with one white plaque lying upon it. The cord was smaller and whiter than normal, and was not pulsating. No tumor was found. Three days later the wound was enlarged upward and the dura found to pulsate freely at the upper level, but not lower down. A tumor, 1⅛ inches in length, lay upon the cord. It was oval, had a distinct capsule, and was removed *en masse* without difficulty. Subsequent examination showed it to be a fibroma. The cord had been reduced to about one-half of its diameter beneath the tumor. No attempt was made by nature to heal the first operation wound, and in spite of great care an extensive bed-sore developed over the hip. In the second week after operation the constricted feeling became less marked. The operation wound healed very slowly. In the fourth week after the operation the patient had constant fever, probably because of the extensive bed-sores. The spinal incision healed about this time, but she died a few days later. The autopsy showed a softened condition of the cord opposite the exit of the second dorsal nerve from the dura, and the fifth and fourth dorsal nerves could be traced into this area. Owing to the rudimentary condition of the spine of the third vertebra an error of one vertebra had been made in the count at the time of operation. The case seemed to emphasize the fact that there should be no delay in operating for spinal tumor after the diagnosis had been reached. In this case the delay had arisen from an effort to try the effect of antisyphilitic treatment, the husband being known to be syphilitic. Bed-sores had developed before the operation, had continued to extend in spite of it, and had eventually caused death from sepsis. Gumma of the spinal cord is quite rare, only twenty-six such cases having been found in a series of 400 cases. The tumor had been found about two inches higher than had been anticipated. Reed's table had been used as a guide at the first operation, but according to Bruns the operation should be done two segments above the upper limit of pain. This advice was nearer the truth in the present case. The level of the pain was about eight inches lower than the level of the tumor; hence, in operating for spinal tumor the level of the cord should be exposed at least four inches higher than the level of the spinal nerve in which pain is found.

Case II.—Mrs. K., forty-six years of age, had been in good health until May, 1900, when after a slight injury she had been delivered of a dead child. Soon afterward she had begun to suffer pain over the left hip, and this pain had extended down to the left knee. It had caused insomnia and progressive loss of health. In September she had noted numbness of the left foot. On October 16th, on admission to the Presbyterian Hospital, she was pale and feeble, and seemed to be suffering from paroxysms of pain over the left trochanter and that side of the sacrum. There was drop-foot due to paralysis of the peronei and anterior tibial muscles. The bladder required catheterization, and the rectum had to be emptied by enema. There was an area of anesthesia down the back of the left thigh and leg, and a smaller area was found on the right side. Under mixed treatment the paralysis extended and the pain became more severe. An area of tenderness to pressure was found over the second, third and fourth lumbar vertebræ, and pressure here aggravated the pain in the hip. It seemed probable from these facts that there was a tumor pressing on the cauda equina, and extending as high as the level of the exit of the second lumbar nerve. The functions of the sacral nerves and last lumbar nerve were evidently affected on the left side. A diagnosis of a cauda lesion was reached because of the level of the pain. On November 15th Dr. McCosh removed the spines and arches of the second, third and fourth lumbar vertebræ. Dissection showed a tumor involving both the soft and hard tissues of this region. The spines and arches had been eroded by the tumor, which subsequently proved to be an endothelioma. This tumor had invaded the spinal canal and produced pressure on the dura. The patient was in a critical condition for two days after operation, but since then had improved rapidly and had had no pain since the operation. A considerable degree of atrophy had developed in both peronei. The wound had healed perfectly and there was no evidence of recurrence. It was reasonable to hope for recovery unless there should be speedy recurrence. Out of 145 cases of spinal tumor that he had collected, the history had been fairly clear in 122. Of seventy-six cases an operation should have been feasible, and according to the pathological report in 75 per cent. the tumors could have been removed.

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Dr. A. J. McCosh said that he had found spinal surgery much more satisfactory than brain surgery; certainly the localization of the lesions had been more satisfactory. It was difficult to say, however, that a lesion is situated at any one segment of the spinal cord, but as a portion of the cord equal to three or four vertebræ must be exposed a slight error in localization is not of great importance. He had had recently a case presenting symptoms almost exactly like those of the first case reported in the paper. The line of anesthesia had been almost the same, but there had been no paralysis of the arms. The autopsy showed a crushing injury of the cord between the fourth and sixth cervical vertebræ. The ordinary rules laid down had indicated a lesion much lower down, and he had in this way been misled at the operation. He had not found laminectomy a very serious operation as a rule, most of the patients having exhibited comparatively little shock; hence, one should not hesitate in advising the operation when the diagnosis was sufficiently clear. He agreed thoroughly with what Dr. Starr had said about the inadvisability of delaying the operation for weeks in order to give antisyphilitic treatment a trial. He had met with a number of cases in which he believed the fatal result was attributable to such delay. When bed-sores were already present the case was practically hopeless, the patient almost invariably dying from sepsis. It was well to remember that tumors of the cord are usually found higher up than the estimated level. By beginning above and working downward, it seemed to him that the healing process would be favored. He was not of the opinion that there was any good ground for believing that the operation of laminectomy so weakens the spine as to lead to disability. Mention was made of one of his cases in which a man was engaged at an occupation requiring the frequent lifting of heavy weights, yet he had felt no inconvenience as a result of the operation upon his spinal column.

Dr. Pearce Bailey reported the case of a man, forty-one years of age, who had been treated for some time previously for a variety of troubles. When seen in May he had stated that about fifteen months previously he had begun to have intense pain on the inner side of the left thigh. There had been an interval of a few months in which this pain had almost subsided. There was slight atrophy in the left leg; the left knee-jerk was absent; there was very slight anesthesia. The case seemed to be one of tumor of the cauda equina. Dr. McCosh had operated upon him on May 22d. He had removed the last dorsal and the first and second lumbar vertebræ, and had exposed what had looked at first like a blood-clot, but microscopical examination had proved this to be a round-celled sarcoma. Although it was probable that all of this sarcoma had not been removed, the man had done extremely well all these months, was free from pain and had resumed his occupation.

Dr Sachs coincided with those who had advised against delaying in these cases in order to try specific treatment. He was thoroughly in favor of operating just as soon as the diagnosis had been established with reasonable clearness. It was a great mistake in his opinion to look upon operation as a last resort. Gumma of the cord was quite rare, and even in these cases very little had been accomplished by the administration of the iodides; hence, such treatment might very well be neglected. In one of his cases in which the operation had been done quite early the man had been restored promptly to health. In another case he had not been allowed to operate early, and the recovery had been far from satisfactory. It seemed to him that a little too much importance was attached to the mere matter of localization; the important question was in regard to the nature of the morbid process and whether or not a tumor is present. In Pott's disease the sensory disturbances were sometimes as marked as where there was a tumor of the cord. Pain was the important symptom, but this was applicable more particularly to dorsal rather than to ventral tumors. He was not prepared to speak regarding the relative frequency of these two forms of tumor. He was of the opinion that a very extensive laminectomy could be done without causing notable disability or deformity. Early operation, he felt sure, would make spinal surgery much more satisfactory than brain surgery.

Dr. Theodore Janeway said that he regretted very much that in his case the diagnosis of spinal tumor had not been made sooner. There had been pain a year previously, but the pain had disappeared for a considerable time, and when he had first seen her she had been so extremely nervous that the question of hysteria had been seriously considered at first. The case had progressed very rapidly during the part of the summer in which he had not seen her.

Tuberculous Meningitis at the Babies' Hospital.—Dr. C. A. Herter read a paper with this title. There were 24 cases of tuberculous meningitis, and in 15 of these there were autopsies. In these 15 cases, 6 were at the age of eight months; 7 were one year old or under. In 9 cases of tuberculous meningitis without autopsy 6 were five months old. These figures showed that tuberculous meningitis was not so rare in the first year of life as had been supposed by some writers. Nineteen of the cases had run their course in less than one month. The fontanelle had been markedly distended in 7 of the 24 cases, and in 3 there had been a marked excess of fluid found at autopsy. In one case the fontanelle had been depressed—the patient had been sick for four or five months. In six cases there had been a delay in the closure of the fontanelle. Vomiting had been noted in 19 of the 24 cases, and had been the first symptom in 14 cases. In five in which there was vomiting the autopsy showed nothing different from the cases that had presented vomiting. In 11 cases

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there had been marked constipation. In cases coming to autopsy there had also been tuberculous lesions in the intestine. In several of the cases there were tuberculous ulcers of the colon and yet constipation instead of diarrhea had been present. The pupils were unequal in 12 of the 24 cases, and dilated in the others. The pupils were contracted in only two cases. Nystagmus was observed in 4 cases, and strabismus in 10 cases. In the cases showing strabismus there were marked lesions at the base and in the interpeduncular space. There were general convulsions in 50 per cent. There was no case which did not present either rigidity or convulsions. In cases without meningitis, but with tubercles in the brain, convulsions were not so common. Paralysis was noted in 10 of the cases of tuberculous meningitis, and was monoplegic in a number. The variability of these palsies was a rather notable feature. In the cases without meningitis, but with tubercles in the brain, no palsies or paralyses were noted. The *tache cérébrale* was noted in 7 cases, and flushing of the face in 10 cases. All the cases of tuberculous meningitis with autopsy had presented stupor or coma, or more or less irregularity of respiration, while these had not been observed in any of the cases with tubercles, but without meningitis. Hyperesthesia had been noted in only one case, and in only one had there been a well-developed cephalic cry. Retraction of the abdomen had been noted to a greater or less degree in 15 of the cases of tuberculous meningitis, but not at all in the other cases. The fever had not been high in the uncomplicated cases, and the pulse had shown nothing distinctive. In the cases without meningitis marked opisthotonos and convulsions had been the rule, and early vomiting had been much less frequent than where meningitis was present. Only two or three of the cases had presented solitary tubercles. In all of the autopsy cases the cerebral tuberculosis had been clearly secondary. The intestine was the seat of tuberculous lesions in 11 of the 12 cases in which the intestine was examined. The knee-jerks were increased in a large proportion of cases, and absent in only two. An interesting feature was that at times the knee-jerks would be alternately exaggerated and absent.

Dr. Leszynsky said that he had made some observations in children under three years with regard to the knee-jerk, and had noted that in the early stages the knee-jerks had seemed to be absent, but as soon as the pressure symptoms appeared the knee-jerks became exaggerated and remained so until death.

Dr. Sachs said that the diagnosis of tuberculous meningitis was usually delayed by the general practitioner because he overlooked, as a rule, the cranial nerve symptoms so commonly found quite early in these cases, and waited for some of the more common and typical symptoms. He would like to know whether examination of the fundus and lumbar puncture had been of any diagnostic aid.

Dr. Herter replied that lumbar puncture had been practised in a few instances, and in two or three tubercle bacilli had been found. The examination of the fundus had been undertaken in so few cases that no deductions could be made. None of the cases diagnosticated as tuberculous meningitis had recovered.

Dr. Sachs said that in a series of cases of sporadic meningitis lumbar puncture had been made, and the diplococcus had been found in almost every instance. He had been surprised also at the large number of recoveries in these cases of sporadic meningitis in which the diplococcus had been found. Their clinical course had been greatly at variance with the older descriptions of cerebrospinal meningitis. The onset had been very violent, the fever lasting often a week or more, and then ultimate recovery was rapid.

Dr. Herter said that in the cases he had seen there had been a much more violent onset than in tuberculous meningitis.

BOOKS RECEIVED.

The MEDICAL NEWS *acknowledges the receipt of the following new publications. Reviews of those possessing special interest for the readers of the* MEDICAL NEWS *will shortly appear.*

MEDICAL-SURGICAL ASPECTS OF THE SPANISH-AMERICAN WAR. By Dr. Nicholas Senn. 8vo, 380 pages. Illustrated. American Medical Association Press, Chicago.

THE USE OF THE RÖNTGEN RAY BY THE MEDICAL DEPARTMENT OF THE UNITED STATES ARMY IN THE WAR WITH SPAIN (1898). By Dr. W. C. Borden. Quarto, 98 pages. Illustrated. Washington Government Printing Office.

URINARY DIAGNOSIS AND TREATMENT. By Dr. John W. Wainright. Demi 8vo, 134 pages. Illustrated. G. P. Engelhard & Company, Chicago.

DISEASES OF THE HEART: THEIR DIAGNOSIS AND TREATMENT. By Dr. Albert Abrams. Demi 8vo, 170 pages. G. P. Engelhard & Company, Chicago.

TRANSACTIONS OF THE AMERICAN ORTHOPEDIC ASSOCIATION. Fourteenth Session. Vol. XIII. Philadelphia, 1900.

ENCYCLOPEDIA MEDICA. Editor CHALMERS WATSON, M.D., M.R.C.P.E. Vol. V., Herpes to Jaws; Vol. VI., Joints to Liver. 8vo. Longmans, Green, & Co., New York.

PHYSICAL DIAGNOSIS IN OBSTETRICS. By Dr. Edward A. Ayers. 8vo, 283 pages. Illustrated. E. B. Treat & Co., New York. $2.00.

OPHTHALMIC LENSES. Dioptric Formulæ for Combined Cylindrical Lenses, etc. By Charles F. Prentice, M.E. 8vo, 192 pages. Illustrated. The Keystone. Philadelphia.

PHYSIOLOGICAL OPTICS. Dioptrics of the Eye, Functions of the Retina, Ocular Movements and Binocular Vision. By Dr. M. Tscherning. Translated by Dr. Carl Weiland. 8vo, 353 pages. Illustrated. The Keystone, Philadelphia.

A TEXT-BOOK ON PRACTICAL OBSTETRICS. By Drs. E. H. Grandin and George W. Jarman. Third Edition. 8vo, 511 pages. Illustrated. F. A. Davis Company, Philadelphia. $4.00.

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THE MEDICAL NEWS.

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ORIGINAL ARTICLES.

A HAIR-CAST OF THE STOMACH; ITS SUCCESSFUL REMOVAL BY LAPAROTOMY.*

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I DESIRE to present for your consideration a case, which, while not unique, is sufficiently rare as probably not to have had its like observed by many present.

Ella M., residing in Oswego, N. Y., aged eleven years, was referred to me in April, 1900, by her physician, Dr. C. A. Sheridan of that city. Both of her parents are living. A maternal grandmother died of consumption. The child had had scarlatina, whooping-cough, and measles. The latter, her last illness, occurred about two years prior to my examination. For fully six months before that sickness, however, she showed evidence of gastric disturbance. She vomited a good deal of frothy mucus, but never at that time any food or blood. The odor of food frequently provoked emesis.

In April, 1899, a swelling was noticed in her abdomen, which at first was said to have been cucumber-shaped. The following summer she began to suffer from colicky pains. These were frequently relieved by friction or after the administration of medicine. She suffered particularly from pain at night, her father being compelled to hold her in his arms. Most of the pain was located to the left of the umbilicus. Her bowels had been constipated for the past year, and moved only with the aid of cathartics. Food disturbed her so that she was compelled to live largely on milk. Upon this diet she gained some in strength and weight. In appearance, however, she seemed scarcely larger than a seven-year-old child. She felt well enough to attend school. She was quite nervous.

Physical examinations showed the presence of a hard, slightly-nodular tumor, quite movable, the lower border being on a line with the umbilicus. The upper extremity could not be defined as the mass reached well up under the ribs on the left side. Internally it arched upward and became conical. Its lower border being rounded and its upper notched, it presented a kidney-shaped appearance. Its long diameter was about six inches. There was quite an area of tympanitic resonance between the tumor and the liver. The urine was examined and found to be straw colored, clear, specific gravity 1022, sharply acid. It contained neither albumin nor sugar; phosphates were normal: microscopically, uric acid and some squamous epithelium were found. She was sent to St. Joseph's Hospital for more careful study. On April 20th a blood-examination was made by Dr. Kieffer. The following was his report: "Count of red blood-corpuscles, 4,880,000 to the c.mm.; leucocytes, 10,300 to the c.mm.; estimation of hemogoblin, 86 per cent.; color index .9. Stained specimen shows decided loss of hemoglobin in all the red blood-corpuscles. These are all of uniform size and shape. The leucocytes are mostly polynuclear. No nucleated reds present."

Under date of May 17th I have summarized in my note-book the condition of the child after her admission into the hospital. The urine had been frequently analyzed during the intervening four weeks, and each time found to be normal. Occasionally her temperature had reached 99° F. and rarely a fraction above, but as a rule it remained normal. The bowels were kept free by administering salines. She had suffered but little from colic, and what pain she had was usually at night. The movements of the bowels were very copious. This was particularly true of the first days of her stay at the hospital. She had not vomited at all during the entire month. She proved to be an exceedingly bright child. There was no apparent change in the shape or position of the mass. Other members of the hospital staff, as well as myself, repeatedly examined her, but we were unable to agree upon a diagnosis, and finally prevailed upon her parents to consent to a laparotomy.

This was performed on the morning of May 17th, 1900. Drs. Elsner, Miller, Larkin, Flaherty, Broad, and Elliot were present. Drs. Heiman and Shipman assisted me. A median incision was made above the umbilicus. Upon opening the abdomen the kidney-shaped mass was found to be within the stomach. A tube was thereupon introduced, and through it this viscus thoroughly irrigated. An incision was carried through the anterior wall of the stomach, parallel with the greater curvature, about three inches in length, the stomach having been previously walled off from the rest of the abdomen by gauze sponges. I was able to force out the conical point and then the rest of the tumor. It proved to be black in color and made up of a mass of hair. Apparently no leakage of stomach-contents occurred. I closed the stomach incision by first suturing its mucous membrane with continued suture, then by interrupted suture the muscular coat, and, finally, with a double tier of interrupted sutures the serous coat. Catgut was the suture material used throughout. The abdomen was flushed with

*Read at the ninety-fifth annual meeting of the Medical Society of the State of New York, held at Albany, January 30, 1901.

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salt water, carefully mopped out, and the abdominal incision closed. The child bore the operation well.

After she had recovered from the anesthetic she admitted that from the earliest years of her life she had been in the habit of biting off the ends of her hair which was always worn long enough to be brought to her mouth. At first she thinks she did it simply because she was nervous. But later she rather liked the tickling sensation produced by the hair in its transit to the stomach.

I am in receipt of a letter from her physician, Dr. Sheridan, dated January 24, 1901, namely, seven months after she left the hospital, in which he writes that the little patient "never had any return of gastric trouble; no pain nor vomiting; and in fact has enjoyed the very best of health. She is as fat and rosy a little girl as you would wish to see; has gained 18 pounds in weight, and is 2½ inches taller."

I present to you the hair-tumor removed from our little patient's stomach. It will be observed that in its contour it presents a perfect cast of

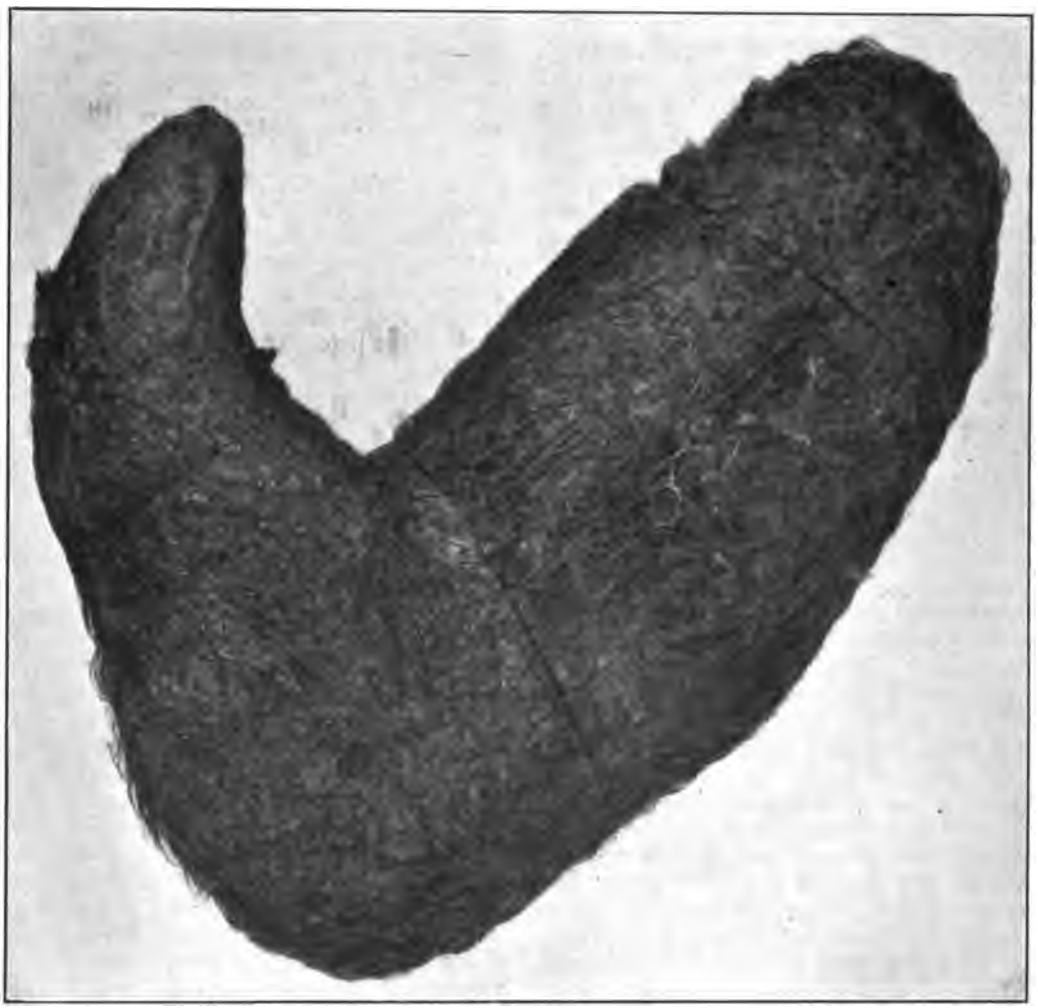

FIG. 1. Hair-cast removed from human stomach. Exterior; full size.

She was put upon rectal nutrient enemata for the first week. After this, liquids were administered. During the third week she received first soft and ultimately solid food. Her temperature never reached 100° F. after the operation, and on the third day the pulse, which had ranged above 120, fell to 80, and remained between 80 and 92 until she was well. The abdominal wound healed by first intention. Before she left the hospital we had her hair closely cut.

this organ while in a state of contraction. It is interesting to note that the pyloric prolongation meets the cardiac portion nearly at a right angle, and scarcely can be said to describe a curve. The conical end no doubt passed into the duodenum. If this portion is carefully examined it will be noted that it is much firmer than the body of the mass. No doubt this is due to the contractions of the pyloric sphincter. Another feature is that this extension projects backward, as though it might have been thus

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twisted by the gastric contractions or in adjusting itself to the shape of the first inch or two of the duodenum.

The tumor is six inches in its long diameter, while a tape carried from the pyloric tip to the summit of the cardiac extremity measures eleven and three-quarters inches. Its breadth is two and one-half inches, its thickness two and one-quarter inches. Its longitudinal circumference is thirteen inches; its transverse circumference at the point of deepest notching seven and seven-eighths inches. It weighs fifteen ounces. I am able to present a photograph of the exterior of the mass, which is of the exact size of the hair-cast. On section it is seen to be made up almost entirely of hair. There is an occasional bit of string. I submit also a photograph of the cross section. It is, however, not full size.

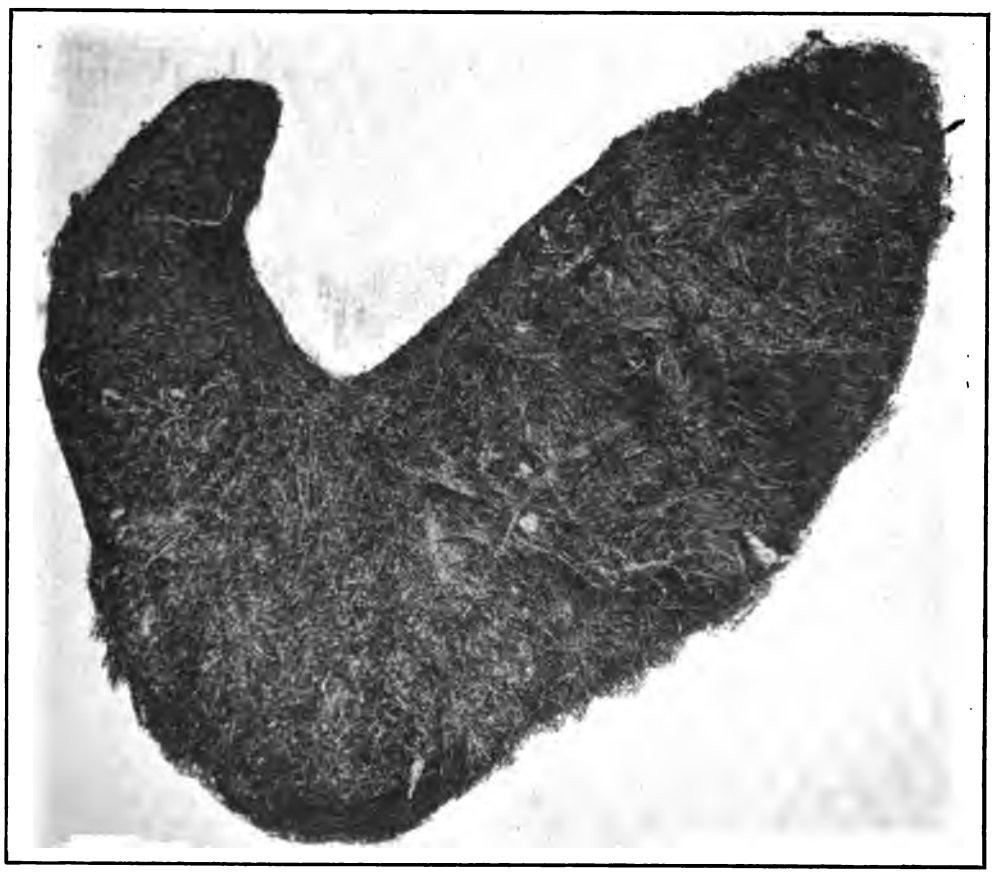

FIG. 2. Hair-cast removed from human stomach. Section; not quite full size.

Hair-balls are frequently found in the stomachs of various animals. Dr. Gull[9] describes in an interesting way the habit the angora cat has of swallowing his hair when shedding his coat. I submit for inspection a hair-ball taken from the stomach of a cow, and another from that of a pig. Works on veterinary surgery in referring to this habit speak of animals licking themselves and each other, and, because of the roughened surface of the tongue, gathering up stray hairs which in the end accumulate in the stomach. These masses are called bezoars, or, if composed entirely of hair, trichobezoars. They are apt to become coated with lime salts.

Some very interesting superstitions have been connected with these accumulations. Gresswell in his work on "Diseases of the Ox," states that at one time they were presumed to possess the power of enchantment against the viper and the scorpion, against vertigo, epilepsy, dysentery, inflammation of the lungs, malignant fevers, the plague, leprosy, and many other maladies. I quote these lines from him: "It was put down to the astonishing power of the bezoar that King Edward IV. was strengthened and preserved from the effects of an empoisoned wound; and the same magical influence was supposed to be the real reason why Emperor Charles V. was enabled to free himself from the dreadful thoughts which haunted and disturbed his mind."

The accumulation of hair in the stomach of the herbivorous animal assumes a form which is, strictly speaking, a "hair-ball." Works on veterinary surgery state that for their formation some foreign substance is required as a nucleus, and that the rotary movement of the stomach

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during digestion gives to the mass a rounded form and a spiral direction to the hairs. This can be observed in the hair-balls submitted. The movements of the stomach of the carnivorous animal have been recently more thoroughly studied. Dr. Cannon[21] administered different quantities of bismuth with food, and, after giving it to a cat, made a series of X-ray pictures of the stomach while the process of digestion proceeded. It appears that the food is crowded onward from the cardiac to the pyloric end by rapidly recurring peristaltic waves, and that the stomach-contents, when filling this organ, are compressed by its muscular contraction and perfectly molded, to conform with the interior of this organ. And so we must assume that when a foreign substance like hair, incapable of digestion, steadily accumulates and ultimately fills the human stomach, it is similarly acted upon and receives the imprint of the contracted organ. Instead of a "hair-ball," we have therefore a "hair-cast" of the stomach.

I have been able, in reviewing the literature of this subject, to find no less than nineteen authentic cases in which a sufficient quantity of hair had been swallowed by individuals to create within the stomach a hair-tumor. These I have arranged chronologically at the end of this paper.

The first recorded case[1] dates back to 1779. It is the only one in which a male was guilty of this habit. He was a boy, sixteen years of age, who seemed unable to resist the impulse to pull out and swallow his own hair and that of others. Not only was a hair-tumor seventeen centimeters long found in his stomach after death, but enough more hair had been swallowed to form a second tumor, twelve centimeters long, which had lodged in the duodenum. In the report of Dr. Ritchie's case[3] a mass of hair is pictured which conforms to the shape of the stomach. Two other hair-balls, weighing respectively one-half ounce and one ounce and a half, were found in the ileum. These had caused intestinal obstruction, perforation and death. In a third case the coexistence of a gastric and duodenal hair-cast is recorded. This, presented by Mr. Pollock[4] to the Pathological Society of London in 1851, is well illustrated in the volume of transactions of this Society for 1851-52. They were removed after death, from the body of a woman eighteen years of age. That taken from the stomach had a length of six inches, a width of three and three-quarters, and a thickness of two and one-half inches. The duodenal mass extended into the jejunum. It presented a length of fourteen inches, a depth of two and one-half inches, and a thickness of two and one-quarter inches.

Why hair taken into the stomach should cling to its walls can be readily imagined. One would think that it could not be easily gotten beyond this viscus. There is a single instance recorded in which an accumulation of hair became lodged in the small intestines and produced intestinal obstruction. No hair was found in the stomach. This case was recently reported by Dr. G. W. W. Brewster[20] in the *Boston Medical and Surgical Journal*. A sausage-shaped tumor presented itself in the region of the bladder. The patient, a girl of ten, survived the operation of enterotomy for its removal only five hours.

The youngest patient was ten years of age, the oldest, thirty-four. Most of the victims of this habit were in their second decennium. But three were married women. None were insane and but few sufficiently nervous to be described as hysterical.

In nearly every instance the habit of hair-swallowing was of years continuance. Once it had existed thirteen years[15]; in another, fifteen[6]; seventeen years in a third case[7], and twenty-two years in a fourth[5]. During this period the stomach gradually became accustomed to the presence of the foreign body, and tolerated it in many instances without the slightest rebellion. One of the largest masses discovered, which weighed four pounds and seven ounces, was reported by Russell[7]. To use his own words: "I may also repeat the statement that the history of the patient did not present any evidence of difficulty in digesting food." One still larger was successfully removed by operation[14]. Its weight was five pounds and three ounces. There are others weighing more than the specimen which I present.

In animals it is not unusual to find a number of hair-tumors at the same time in the stomach. One writer speaks of as many as nine. In but a single case[7] do I find the presence of two recorded as coexisting in the human stomach. These were so molded to each other that together they formed a perfect cast of the stomach. As to form, nearly all present the same picture. With but a single exception they had a pyloric prolongation extending into the duodenum. This case is reported with illustrations by Schoenborn[10] in Langenbeck's Archiv. One case presented an esophageal spur[6]. In Bollinger's case[18] the duodenal projection was fourteen centimeters long and five centimeters thick.

Of the nineteen cases, ten were discovered postmortem, and nine upon the operating-table. It is very surprising that in every instance the discovery of the hair-cast was unexpected. In not a single case had a correct diagnosis been made. And what is still more remarkable, no physician or surgeon had ever surmised that he had to deal with a foreign body in the stomach. Perhaps we should except Stelzner[17] who knowing of Schoenborn's case, suspected that this might be the condition. As a rule the diagnosis was splenic or omental tumor, movable kidney, or fecal or other impaction in the transverse colon. Two of the patients were pregnant. In each of these the vomiting was most intense. In one there was such severe hematemesis that the physician reporting the case was called in consultation to arrest the gastric hemorrhage[7].

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The patient's condition was so extreme that she died of collapse on the following day, having in the meantime aborted. In the other case[9] death from perforative peritonitis followed the delivery of a seven-months child. In a few instances vomiting frequently occurred after meals, this having kept up for several years. Occasionally the patient would vomit several times in one day and then not again for several days. Nor was it always food which was ejected. In some instances it was glairy mucus, which would occasionally be streaked with blood. The appetite was variable. In one case[9] hot foods caused pain and vomiting, while cold food could be easily retained. In some instances there was no pain until, as a result of perforation of duodenum or stomach, peritonitis occurred. Others had occasional pains after eating.

In only one instance[10] do I find the peculiarity referred to in my own case, namely, the regular recurrence of severe pain at night and while the patient was in a recumbent posture. This certainly is a manifestation which one should not have with movable kidney, splenic or other tumor. The bowels acted irregularly; more often than not the stools were liquid. In at least one case there was alternating diarrhea and constipation[15]. In a few there was suppression of menstruation. The general condition of the patient was sometimes not much altered. In other cases there were marked emaciation, anemia, or as occurred in my own patient, a condition of immaturity, for, as will be recalled, though eleven years of age she appeared to be scarcely more than seven.

Almost without exception the discovery that the patient had been a hair-eater was not made until the tumor was found. As a rule the hair had been simply bitten off from braids or flowing locks, but in other instances hairs of great length were found. One woman[7] is said to have pulled the hair out of the back of her head whenever she became nervous, rolling it up into a ball and swallowing it, while another deliberately swallowed her combings night and morning[8]. In a single instance the hair came from a foreign source; Schultén's patient—a weaver of cow's hair into shoes—frequently, while at work, carried her hair-covered finger to her mouth.

The physical signs as stated were always incorrectly interpreted. In most instances the tumor occupied the position in the epigastrium described in my own case. It was difficult or impossible to reach the upper border of the mass because of its concealment behind the lower ribs on the left side. In the case of Russell[7], the large tumor so displaced the stomach that it assumed a nearly vertical position, and the pylorus was made to occupy a site in the pelvis. The tumor was always movable, rarely sensitive, although occasionally tenderness was noted. The convex lower surface, the concavity above, gave the mass a striking resemblance to a kidney. Schoenborn and Naunyn[10] studied their case very closely. They introduced a tube into the stomach and inflated this organ. As the viscus became distended the anterior wall of the stomach was elevated and the mass was made to occupy a deeper position. They were both quite convinced therefore that the tumor was a misplaced kidney.

In nearly every fatal case death resulted from perforative peritonitis. In some cases the mucous membrane and muscular coat of the stomach were found greatly thickened. The perforating ulcer had no fixed location. It was found situated in various parts of the stomach, and in at least one case was in the duodenum[9].

While it must be admitted that in the nine operated cases the surgical procedure was intended to be only an exploratory one, or was performed with the expectation of finding other conditions, it is a matter of great gratification that in every instance the patient made an uninterrupted recovery. Not a single death attended the operation.

The first reported case in which laparotomy was successful was by Schoenborn in 1883[10]. Soon thereafter (1884) Thornton[11]* operated upon his patient. The other gastrotomies were performed by Berg[12], Swain[14], M. W. af Schultén[15], Allen[16], Stelzner[17], Schopf[18], and myself[19]. With the exception of Schopf[18] each operator removed the mass entire. In most instances silk was used as suture material. In all cases total disappearance of symptoms occurred after recovery from operation.

Addendum.—Soon after I read this paper at the meeting of the Medical Society of the State of New York, Dr. Wm. Finder of Troy called my attention to a specimen presented by himself to the New York State Medical Association at its annual meeting in 1886 and which he informs me is now in the Museum of the College of Physicians and Surgeons of New York. There were two masses, together weighing sixteen ounces and composed of human and horse's hair, sewing-thread, grasses, and plant fiber. These were removed postmortem from the stomach of a young woman in March, 1886, who was supposed to have died of malignant disease of the stomach.

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* I have searched in vain for a record of the operation Homans[22] states Thornton performed in 1866. As Thornton in the report of his case[11] mentions the fact that Homans witnessed this operation in 1884, it seems probable that the date given is simply a typographical error.

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SCURVY AND RICKETS IN YOUNG CHILDREN.

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IT has only been within the last decade that the possibility of scurvy occurring in young children has been generally recognized by the profession. Prior to that time we were wont to consider that scorbutus was a disease which was prone to attack seamen placed under unfavorable dietetic conditions, and scarcely to think of the possibility of its occurring in persons living on shore and obtaining a varied diet. Still less did it occur to us that some obscure manifestations of diseases in nursing infants might be due to this cause. During the past decade, however, evidence has been present in considerable amount which shows very clearly that scurvy is by no means a very rare affection in early life, and that it often manifests itself in such a way as to lead the physician to make a very erroneous diagnosis when the patient is first brought to him.

Perhaps the most frequent error in diagnosis under these circumstances is that the child is suffering from muscular or articular rheumatism; this decision being reached by reason of the fact that the child seems to suffer great pain upon movement, and sometimes has a small degree of fever. The pain on motion is so excessive in many cases as to seem almost agonizing; and it is by no means uncommon for parents to permit children to become excessively unclean because the movements necessary in bathing cause such manifestations of pain that it seems a greater kindness to permit the child to become filthy than to move it about. As a matter of fact, acute articular rheumatism in young children is a very uncommon disease, certainly while they are still nurslings, and particularly is this true of most portions of the United States where rheumatic fever is by no means as common as it is in England and perhaps some other portions of the Old World. While it is true that acute articular rheumatism frequently attacks children in the second decade of life, it is equally true that it is rare, as we have just stated, in the first five years of existence.

The characteristic symptoms of scurvy in a young child, when they are well developed, are so pathognomonic that it is difficult to see how an error in diagnosis can be made if the physician is acquainted with the possibility of the occurrence of this disease. Like all diseases, however, instances are met with in which many of the characteristic symptoms are entirely absent, and it is not uncommon for the painful manifestations that we have spoken of to be the only evidence of the malady. In still others, we find a peculiar spongy state of the gums, which tend to bleed when lightly touched and which are frequently so swollen that teeth which have recently broken through the gum are speedily covered in by the overgrowth of the mucous membrane, the edges of which, about the teeth, frequently look as if they were composed of tiny blebs of blood of a dark color. The other symptom of scurvy, which is by no means as constant and yet which is equally characteristic, when it occurs, is the development of petechiæ in different portions of the body, very frequently about the ankles and feet. In still other cases, subperiosteal hematoma develops with surprising rapidity, and, as pain on movement and the development of great swelling are frequently first noticed after a fall or a blow, it not rarely occurs that the physician is led into the belief that traumatism is the cause of the illness, without recognizing the fact that it has played but a small part in causing the sudden development of a state which really indicates grave systemic conditions. It is true that these subperiosteal hematomata have been chiefly reported by French clinicians, and have been rarely seen in this country, whereas, on the other hand, considerable extravasations of bloody serum have been met with in the loose tissues after exposure to injuries which in the healthy infant would produce no symptoms whatever. Particular attention has recently been called to these cases of scurvy simulating rheumatism by Griffith, of Philadelphia, in a paper which he read before the County Medical Society.

The peculiar characteristics of scurvy in infants are the very grave appearance of the child when suffering from the disease in its severe forms, the rapidity with which it improves under proper treatment, and the rarity with which death occurs as the direct result of the malady, since a fatality is usually produced by some intercurrent disease which speedily saps the vitality of a child whose vital resistance is already so impaired.

The following cases illustrate three types of this condition which have come under my observation: The first occurred some years before scurvy was recognized as a common disease in early infancy and was that of a child, about a year old, who cried bitterly every time it was moved, particularly if the movement in any way involved a change in the position of its back. Indeed, the back symptoms were so marked that the father of the child, a physician, called me to see it in order to determine whether it was suffering from spinal disease, and I, in turn, asked for the opinion of a well-known orthopedic surgeon, who stated that spinal disease was present, and who prescribed a line of mechanical treatment which chiefly consisted in fixation of the spine and abso-

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lute immobility of the body as far as possible, with the object of avoiding pain and lessening irritation. After this treatment had been kept up for a considerable period of time without any benefit taking place, except that the child had been free from the suffering incident to the frequent moving of its body, it occurred to me that this might be a case of infantile scurvy, and in following out this idea it was promptly treated for this condition, with an amelioration and final cure of its symptoms which were extraordinary in their rapidity.

Another case was that of a child in the northern part of Philadelphia, seen in consultation with a well-known practitioner, who gave me a history that three other children of the family had died in early infancy with symptoms which had been variously described as meningitis, cerebrospinal meningitis and "spinal trouble." The parents were much alarmed because they thought that the present infant was manifesting the same symptoms which had carried off the other children. This child screamed incessantly, night and day, and nothing seemed to comfort it. The more it was nursed and coddled, the more its parents tossed it up and down and walked with it, the louder became the cries of the child; yet its crying was so incessant when it was laid in its crib or upon a bed that the members of the family took turns in keeping it in their arms, day and night, until all of the adults of the family were exhausted, and the child also seemed to be on the verge of collapse. Careful examination of this child revealed the fact that its gums were slightly spongy, and as no evidences of disease in its spine or joints or head could be demonstrated, the diagnosis of probable scurvy was made, and proper treatment again resulted in a very extraordinary rapidity of cure, the pain ceasing and the child becoming quiet and sleeping naturally under a proper dietetic arrangement when the use of bromides and other sedatives in ordinary doses had failed to produce any marked change for the better, even of a temporary character.

The third case was that of a child of wealthy parents who suffered at the end of its first year of life with almost complete paraplegia. It was plump but pallid, and its gums and mouth presented the characteristic scorbutic symptoms already named, so that in this instance the diagnosis was by no means difficult. The possibility of scurvy had not been thought of, as the child was supposed to be fed on the best cow's milk that money could buy, with the addition of a well-known form of artificial infant's food. Here again the introduction of proper dietetic regimen resulted in an equally speedy cure with total disappearance of the paraplegic symptoms and a recovery of power in the lower extremities which was remarkable. No one who had not had experience with such cases would have believed that so much loss of power could be so soon followed by its complete reinstatement.

I wish to conclude this brief paper by pointing out a feature of this disease which has seemed to me to be quite constant, namely, that scorbutus in infancy is distinctly a disease of the children of the well-to-do in distinction from rickets which, on the other hand, seems to be a disease of the poor. Clinical experience, I think, indicates that scorbutic cases are rarely brought to hospital dispensaries while rachitic cases are constantly seen. On the other hand, scorbutic cases are not uncommonly met with in private practice. This clinical fact seems to carry out certain theories which have been advanced in regard to rickets in a way which is interesting. It is not many years since every one believed that rickets was due to a deficient quantity of bone-forming material in the food of the child, but since that time other clinicians have stated their belief that more commonly it depends upon inability of the child to assimilate and utilize the ingredients in its food which it needs for proper bone growth. Or, in other words, the fault lies not with the food but with the child. Amongst the poor this inability is probably due to unhealthy surroundings and a general lack of sanitation which interferes with development. On the other hand, such influences are not at work among the children of the well-to-do, but these children often receive, for long periods of time, the various artificial foods which, in many instances, they are incapable of digesting, and not only this, but no change is made in their diet for months, either in the quantity of the various ingredients which it contains, or in their quality. These children, therefore, suffer from the nutritive changes which come on as a result of a limited and fixed diet with no variation; whereas, the children of the poor, who often have too great a variation in their diet, rarely present scorbutic symptoms and often do manifest distinct rachitic symptoms.

It is known that not rarely cases of laryngeal spasm or cough depend upon either rickets or scorbutus, probably most commonly, the former, though in one or two instances excessive laryngeal irritation has been met with by me in children who were distinctly scorbutic. It would be well if physicians in the presence of obscure cases occurring in early childhood would remember the possibility of either one of these affections being the underlying cause for the manifestations of disease and thoroughly investigate the question of diet before administering remedies, such as the salicylates for rheumatism, iron for the blood, or bromides for nervous irritation. It seems hardly necessary to add that, when artificial foods have been largely employed and scurvy has developed, they should be cut out of the diet list; that natural food should be largely introduced; that orange-juice should be freely given, and that beef-juice should, for a time at least, form an important part of the child's food. It is quite extraordinary in some cases to note the almost instinctive avidity with which little babies, too young to have any real desire for a particular kind of food, will seize upon a spoonful of beef-juice and apparently enjoy its taste, as if appreciating the value of this fluid to the economy.

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THE RELATION OF TUBERCULOSIS TO THE TENEMENT-HOUSE PROBLEM.[1]

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IN view of the fact that tuberculosis, although not by any means confined to the tenements, finds its chief centers of infection and makes its greatest ravages in these districts, the Tenement-House Commission, appointed to examine into the conditions of life of the poor in New York State, has undoubtedly shown a true appreciation of its important duties in deciding to devote its first public hearing in this city to a discussion of the momentous question, The Relation of Tuberculosis to the Tenement-House Problem.

When it is considered, however, that, according to the statistics of the Department of Health, between eight and nine thousand deaths from pulmonary tuberculosis are annually reported in the Greater City of New York—I say *reported* advisedly, for the actual number of deaths from this cause probably far exceeds the figures given—and when it is estimated that at least four times this number of persons at present suffering from phthisis in a more or less advanced stage of the disease are now living in the city, perhaps three-fourths of which, or in the neighborhood of twenty thousand, are to be found in the tenement-house districts, the immense magnitude and difficulty of dealing with this problem may be readily realized.

It has been suggested, as the best and only radical solution of the problem, that public hospitals and sanitoria should be established for the isolation and treatment of the consumptive poor; but as useful and necessary—nay, urgently needed—as such institutions are, as an adjunct to the methods to be adopted, it is manifestly impossible to care for the vast multitude of tuberculous individuals in this way. We must, therefore, depend chiefly upon other and more general means for the restriction of tuberculosis, if we can ever hope to prevent it and finally drive it from our midst. We must continue to improve the general health of our cities by judicious sanitary measures, we must better the condition of the poor by the erection of suitable tenement-houses and by gradually educating the people in the ordinary laws of hygiene, so that they may be able to take better care of themselves and their families; and above all we must warn the public of the dangers of contracting consumption, how to prevent it and avoid communicating the infection to others.

Tuberculosis, as is now generally known, is caused by the tubercle bacillus, a specific germ, without which the disease cannot be produced. But it is important to bear in mind, not only with regard to consumption but all other bacterial diseases, that the mere presence of the microscopic organism in the body does not cause disease when the conditions in which the germ can grow and develop its poison are absent; it is only when the conditions favorable to its growth exist that it becomes a harmful invader. Thus, although the bacillus tuberculosis is the essential cause of this infectious disease, there are various other contributing causes which influence the production of tuberculosis, and unless these causes are at work, weakening and exhausting the vital functions, the tubercle bacillus, when present, meeting with a sterile soil and the natural resistance of the body in health to all disease, although otherwise a most destructive and insatiable tissue-consumer, soon dies of inanition, or, at any rate, remains quiescent and harmless.

It is to the unfortunate existence of unhygienic conditions, which favor the growth and development of this ubiquitous bacillus in the habitations of the poor, that the prevalence of tuberculosis in the tenement-house districts is due. One of the most potent factors in the production of consumption, especially in the tenements, is overcrowding and consequent foulness of the air. "The respiration of impure air," says one great authority on tuberculosis, "directly debilitates the vital powers, enfeebles the nervous system, depresses the appetite, deranges the secretions and leads to the retention of effete matter in the blood." It has been repeatedly observed that previously-inhaled air is one of the main causes in the production of phthisis. "With the fear of bacilli and contagion before his eyes," says another well-known authority, "neither the patient nor his attendant will hesitate to ventilate sufficiently, and constantly renew the air breathed. *Free extreme ventilation is the most important means of preventing and also of treating pulmonary consumption.*"

I might, if space allowed, quote many striking examples of the influence of deficient ventilation in predisposing to consumption. This influence is most marked in prisons, asylums, workshops and similar places, where vitiated air is breathed continuously, and where other injurious influences are also usually at work. It commonly means that the sufferer follows a sedentary occupation and works in a constrained position, or is confined indoors amid depressing surroundings. In addition he may be underfed, and it is a well-known fact that bad air leads to intemperance; poor food and drunkenness have a special influence in rendering people susceptible to consumption.

The effects of overcrowding are well exemplified in densely populated cities. Lagneau has shown, from statistics collected from 662 cities in France, that the denser the population the greater is the number of deaths from tuberculosis. Thus, while the death-rate per 1000 of the population from this cause in cities of 5000 inhabitants was 1.81, in cities of 10,000 inhabitants it was 2.16; in cities of 20,000 inhabitants it was 2.71; in cities of 30,000 inhabitants it was 2.88; in cities of 100,000 inhabitants it was 3.05; in cities of 450,000 it was 3.63; and in Paris, with upward of three million inhabitants, the death-rate per 1000 of the population rose to 4.90. From the Report of the

[1] A paper presented to the Tenement-House Commission at its meeting in New York City, November 16, 1900.

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Health of Towns Commission for Great Britain it appears that the ratio of phthisis and other similar diseases in Dundee, Scotland, increases with the overcrowding in dwellings. Taking the ratio of dwellings of four rooms and upward as 10, it was found that the other ratios were: For three rooms, 17; for two rooms, 20; and for one room, 23. The same thing has been observed in London. According to the Annual Report of the Medical Officer of Health in London, 1898, in districts with under 10 per cent. of overcrowding (overcrowding being taken to mean where more than two persons occupied a room in tenements of less than five rooms) the death-rate per 1000 from tuberculosis is 1.10; in districts with under 15 per cent. overcrowding it is 1.43; in districts with under 20 per cent. overcrowding it is 1.61; in districts with under 25 per cent. overcrowding it is 1.80; in districts with under 30 per cent. overcrowding it is 2.07; in districts with under 35 per cent. overcrowding it is 2.42, and in districts with over 35 per cent. overcrowding the death-rate per 1000 from consumption is 2.63. Similar observations conducted for the four years previous to 1898 showed the same obvious relation between the amount of overcrowding and the phthisis death-rate.

It has also been repeatedly observed that some houses in these overcrowded districts after a time seem to become permanently infected with tuberculosis, as evidenced by a repetition of cases of the disease. There can be but little doubt that in many instances such a "family house" is a far more important factor in the production of consumption than any supposed "family predisposition," these houses becoming infected through the poisonous discharges of previous tuberculous inmates. It is easy to understand how the permanent infection of premises may occur when one considers that the sputum of consumptives, which frequently contains a countless number of virulent tubercle bacilli, is often carelessly expectorated on the floor and elsewhere in dwellings, where it dries and is converted into dust, thus getting into cracks in the woodwork, in the papering, etc., whence it is later inhaled into the lungs by others. Such tuberculous dust has been found by experiment to remain virulent and infectious for months and even years after it was deposited in rooms which were not thoroughly disinfected and renovated; and where this dust is allowed to accumulate for a length of time it may be impossible to disinfect and renovate the premises without practically rebuilding them. These premises then become permanently infected.

From an investigation made by the writer in 1897, from the maps and records of the Department of Health, into the distribution of tuberculosis in New York City, it was found that in two wards of the city (Wards IV and VI) 38 per cent. of the total number of dwellings had cases (including deaths) of consumption reported from them during the years 1894, 1895 and 1896. Of these cases one-half occurred in 23 per cent. of the affected houses, this being but 9 per cent. of all the dwellings in the wards. One-fourth of the houses had apparently become permanently infected, as shown by a repetition of three or more cases of consumption in them in the three years, while certain very bad houses had eight or more cases repeated in them. During a period of eight years previous to 1897, according to the records, 136 cases of pulmonary tuberculosis (including deaths) were reported from twelve houses, or an average of 11⅓ cases per house. And these were only the reported cases and deaths, which, as we know, represents but two-thirds to one-half of the actual number of cases which probably occurred in these houses. It may be safely estimated, therefore, that 200 or more cases of consumption, or an average of about 20 per house, had occurred in these twelve houses in eight years—a truly startling exhibition.

These two wards were selected for study because they contained a large number of tenement-houses in one of the most overcrowded parts of the city, and because they illustrated most forcibly the effects of overcrowding and consequent foulness of air. The greatest prevalence of the disease was found in those tenements in which the sanitary provisions were most deficient, especially in rear houses and old, dilapidated buildings, where lack of ventilation and light and the presence of ignorance, poverty and filth furnished the most favorable conditions for the growth of all bacteria, and especially of the tubercle bacillus. These conditions have since been partially removed by action of the Department of Health and some of the most unsanitary houses were condemned and torn down in 1896; but many other equally-infected tenements in these and other parts of the city are still standing, some of them having shown an increased repetition of cases—a menace to the health of the community—despite all possible efforts toward disinfection, renovation, etc., on the part of the sanitary authorities.

Analogous investigations have also been made by others in this country and abroad with the same result. Dr. Ransome found in Manchester, England, that tuberculosis was distinctly more prevalent in certain houses than in others. The closed courts and alleys, the shut-in or blocked-up houses, and, above all, the houses built back to back, with no through ventilation, and with bad light, were the most affected. In some instances, within five or six years, double or treble occurrences of the disease had taken place in the same house, and some houses not only showed a repetition of cases, but patients who had improved on being taken to hospital had a recurrence of severe tuberculous symptoms when they returned home, and had to be sent to hospital again. Dr. Tracy, Registrar for the City of New York, has also studied the distribution of tuberculosis throughout the entire city, from the record of deaths during the five years, 1888-1892; and Dr. Flick has done the same for one ward in Philadelphia for twenty-five years previous to 1888. The conclusions arrived at by these competent observers tally exactly with those reached by the writer, *viz.*, that

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tuberculosis is not uniformly diffused throughout a community, not even in those localities where the disease is most prevalent, but is confined within narrow limits, as in certain streets and within the walls of certain houses.

That this effect is largely the result of deficient ventilation and lack of pure air and light there can be no doubt, although, of course, other conditions to be found in the tenement-house districts also take part in the production of the disease. As to the effect of light, there is abundant evidence to show that daylight, especially direct sunlight, exercises a beneficial influence in maintaining the general standard of health; and that darkness and damp tend to produce disease. It has been proved by numerous experiments that light is inimical to and under favorable circumstances may wholly prevent the development of bacteria and disease-producing organisms. The tubercle bacillus when exposed to direct sunlight is killed in from a few minutes to several hours, depending on the thickness of the layer and the season of the year; and when placed in diffuse daylight, as near a window, it is destroyed in from five to seven days. No dark or damp dwelling is fit for human habitation, and those who live in such places are seen to grow pale, sicken and die, like plants that are kept in a cellar.

There is an Italian saying to the effect that where the sun does not enter the doctor does, and the Indians have a proverb which says that he who plants a tree in front of his house begins to dig his own grave. The value of sunlight in the treatment of consumption, especially in its early stages, has long been recognized by practical physicians, and the method which has been most successful in curing the disease, and which is now practised generally in sanatoria for consumptives, consists chiefly in a plentiful supply of sunlight and fresh air, together, of course, with the necessary rest, proper food, medical and hygienic treatment, patients when suffering from tuberculosis being placed on a terrace in the open air or in a balcony sheltered from cold winds, but exposed for many hours during the day to the full direct rays of the sun.

Another no less important predisposing cause of phthisis is habit of life and occupation. It has been observed that those who follow an outdoor life under normal healthy conditions are comparatively free from the disease, while those who lead sedentary lives, habitually indoors, are very subject to consumption, the maximum incidence of this affection being found among persons who constantly inhale impure air in badly-ventilated rooms and in occupations associated with a dusty atmosphere. Thus stone-cutters, knife-grinders, potters, plasterers, dyers, wood-carvers, cigar-makers, polishers and the like suffer particularly from phthisis. Printers, compositors, tailors, dressmakers, bakers and all those who work in a constrained position in poorly-ventilated, poorly-lighted or damp places, or where smoke and various irritating gases are generated also readily contract the disease. And how many of our tenement-house dwellers do we find working at such occupations under bad hygienic conditions!

But admitting that these evils, and others conducive to tuberculosis, exist in the tenement-house districts, what can be done to ameliorate or remove them? The problem is unquestionably a difficult one—probably the gravest and most difficult of the day, and as such it is worthy of the consideration of all thoughtful men—but, although it may take a long time and the expenditure of much money to solve it, I do not think that it is hopeless of solution.

Apart from the erection of public hospitals and sanatoria for the care and treatment of the consumptive poor, which we need not consider here, much might be done in the way of legislative enactments regulating the width of the streets of cities, the construction and height of the houses, and, above all, the preservation of parks or open spaces. The establishment of public washhouses would have a very beneficial effect in minimizing the frequency with which washing and drying of clothes is carried on in small rooms. In the same way, the evils resulting from working at home at sedentary occupations in ill-ventilated apartments might to some extent be obviated by the establishment of public workrooms, where, on payment of a small fee, tailoring, shoemaking and other similar employments might be followed; and it would be well if all such deleterious home-work were prohibited. The erection of model tenement-houses, constructed on true hygienic principles, by generous and liberal-minded private individuals, is a noble and far-reaching charity and is much to be commended; and could municipalities undertake such a work it would prove to be an investment which, both directly and indirectly, would return a handsome interest. The building of cottage homes on the outskirts of cities, together with cheap rapid transit facilities, for rehousing the working classes on the destruction of unsanitary tenements in the congested districts, is also to be encouraged, and this would afford, perhaps, the most practical means toward a final solution of the problem.

Meanwhile the overcrowding of tenements should be restricted by regulating the air-space, allowing not less than 600 cubic feet to each adult and 200 cubic feet to each child of five years, and by enforcing the ventilation and lighting of rooms by means of a current of air from windows opening upon the outer air, or at least upon large air-shafts. Undoubtedly all back-to-back and rear houses should be absolutely condemned. Not only should the height of new houses be regulated according to the width of the streets, but the erection of additional stories to houses already standing on narrow streets should be forbidden. In a city like New York, where the price of building lots is ever on the increase, the natural tendency is to make the houses higher and higher, until in many of them the amount of daylight which reaches the rooms on the ground floor is so small that only the upper stories are fit to live in, the rooms in the lower stories being too dark and damp for anything but

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an abode for rats. Sufficient air-space should be left behind the houses to allow thorough ventilation; nor should the corner houses be permitted to cover the entire lot; and streets should be open from end to end, so that all houses have free ventilation both back and front.

Every landlord should be required, before letting his tenements to different families, (1) to make ample and suitable water-closet provision for the number of persons who are to occupy the houses, preferably a separate water-closet to each set of apartments; (2) to supply each set of apartments with a separate water-supply and bath—cheap public baths are a fair substitute, but there is nothing like a private bath to encourage cleanly habits; (3) to provide separate storage for coal; (4) to provide sufficient means for washing clothes; and (5) to provide pantry accommodation for the keeping of food. These are not luxuries, but absolute necessaries of life for civilized beings, and therefore should be provided in every tenement. Their presence tends to promote health; their absence causes dirt, ill-health, disease and death, while it also tends to dehumanize people and to breed paupers and criminals. If we cannot prevent the aggregation of population in cities, we should at least try to make the evil effects of overcrowding as little felt as possible.

The results of injurious occupations in factories, workshops, etc., have already been greatly mitigated by the introduction of improved machinery and methods, by the regulation of hours of work, by prohibiting the employment of very young children, and by enforcing the use of fans to carry off the dust and deleterious gases, but there is still room for improvement in these matters.

Much has been done by the sanitary authorities as pioneers in the crusade against consumption, by the adoption of improved measures of sanitation, by the enforced disinfection and renovation of infected premises, by the compulsory notification of tuberculosis as an infectious and communicable disease, by the prohibition of spitting in public places and conveyances, and by the distribution of circulars of information regarding the nature of consumption. These laws and regulations should be more rigorously enforced, and especially by every means in our power—through societies for the prevention of tuberculosis and through the press, the pulpit and the schools, as well as through boards of health—we should endeavor to educate the public as to the character of this disease, more particularly with regard to the danger of communicating the malady through the expectoration of consumptives unless this is received in proper receptacles and destroyed before it can dry and mingle with the dust. And by flooding the cities, especially tenements, workshops, schools and stores, with simple notices of these facts, we should keep on advertising them, so to speak, on the highways and byways, until, like other advertisements, they are read and remembered.

But it may be asked, will it pay to do all this? The Anglo-Saxons are frequently called "a nation of shopkeepers," and we Americans particularly are said to "worship the Almighty Dollar." Some time ago I attempted to estimate the pecuniary loss to the community, as the result of the mortality and disqualifying power of consumption; and perhaps this estimate is worth recalling in connection with the relation of tuberculosis to the tenement-house problem.

It is not easy to place a money value upon human life, but, according to one of the best authorities on this subject, the economic value of the individual is what he has cost his family, the community or the State for his living, development and education—the loan, as it were, which the individual has made to him to reach the age when he can restore it by his labor. The average life-value has been estimated by different economists in Europe at amounts ranging from $750 to $1000, and over; and the law often allows far larger sums than this for loss of life and limb. It is certainly not an overestimate, therefore, to place the pecuniary life-value of a citizen of New York at $1000. Now there are, according to the official records, over 8000 deaths per annum at present in New York City due to pulmonary tuberculosis alone, and at least 7300 of these, or about 91 per cent., occur between the ages of fifteen and sixty-five, that is during the period of the greatest productive capacity of the individual. Thus taking $1000 to be the value of adult human life in this city, and the annual mortality from consumption of persons between fifteen and sixty-five years of age to be 7300, there would be an actual yearly loss to the community from this cause of $7,300,000. But a sufferer from this disease is usually incapacitated from work for a considerable period before his death, during which time he earns no wages, and a corresponding loss in producing power thus accrues to the community. Many consumptives die within the first few months and, from this point of view, influence the question comparatively little. Others again live for a number of months and some for several years. It is possible that a few of these are in the full exercise of their power and that their earning capacity is unimpaired; but the majority are in all probability burdens on their relatives or on the city. Assuming, however, that the average consumptive is incapacitated from active work for three months or ninety days only, and estimating the daily wages of the common laborer to be $1.50—the average number of deaths from consumption between fifteen and sixty-five years of age being 7300—there would be a further loss to the community in productive capacity of $985,500 per annum. Computing these amounts, and leaving out of consideration all other possible expenses connected with the illness and death of the individual, we find that there is at least a yearly tax of $8,285,500 levied in New York City by this dread disease. In this calculation, however, only the reported deaths are considered; whereas at least 30 per cent. more should be added to these, which although reported as due to some other disease are really

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tuberculous. There are, moreover, at a conservative estimate not less than 20,000 cases of well-developed and recognized pulmonary tuberculosis now in the city, and an additional large number of obscure or incipient cases. If we include these two classes, a considerable proportion of which are doubtless also incapacitated from work, we may safely estimate the annual pecuniary loss to the community from consumption to be little short of ten million dollars. And the greater part of this loss, remember, occurs in the tenement-house-districts, *i. e.*, among those who furnish the real physical strength of the nation.

Taking, therefore, only a sordid view of the matter, it will certainly pay to expend money and time in the effort to check the ravages of a disease which causes such an enormous financial loss that it is incalculable. But tuberculosis does more than this: It not only gives rise to a greater loss of life and money in the world than war, pestilence or famine, but it is the source of more misery, suffering, poverty, and perhaps crime, than all the other ills to which human flesh is heir.

And yet there is no doubt that this is a preventible disease and can be more easily prevented, with our present knowledge of its origin and nature, than cholera, smallpox or the bubonic plague—other bacterial diseases which in the Middle Ages, under the name of "the Black Death," decimated the populations of the earth, as the result of still more unhygienic conditions and of greater ignorance, poverty and filth, but which now have been entirely rooted out from all civilized countries, because the necessary sanitary precautions were taken to prevent them.

Tuberculosis, although an evil much to be dreaded, is not an inevitable decree of Fate, not an unavoidable disposition of Providence, as it has been commonly thought to be; but like many other ills from which mankind unhappily suffers, the remedy for it exists to a great extent in ourselves:

> "Our remedies oft in ourselves do lie,
> Which we ascribe to Heaven: the fated sky
> Gives us free scope; only doth backward pull
> Our slow designs, when we ourselves are dull."

The skeptics tell us that to hope to eradicate tuberculosis is the dream of sanitary enthusiasts, far-fetched and Utopian. But already the mortality from this disease has been much reduced, owing to the adoption of improved sanitary methods, although carried out on a limited scale and in an irregular manner. May we not reasonably assume, then, that more vigorous and systematic measures, together with organized and cooperative action, will accomplish infinitely better results? This is an age of combinations, unions and alliances of all kinds. Why should we not combine the vast interests of doing good in this great work of practical sanitation, with the full belief and expectation that the day will come when this wide-spread and fatal scourge may be completely exterminated?

A table showing the mortality from phthisis at various ages and between the ages of fifteen and sixty-five, the total mortality from phthisis irrespective of age, and the general mortality, in New York City (Manhattan and the Bronx and Greater New York), for the years 1897-98 and 99, taken from the official records.

	ear	Deaths from phthisis at various ages.							Deaths from phthisis between the ages of 15 and 65.	Total deaths from phthisis irrespective of age.	Total deaths from all causes.
		0—1	1—15	15—20	20—35	35—55	55—65	Over 65	15—65		
Manhattan and the Bronx	1897	51	146	274	2182	1684	323	183	4463	4843	38,877
	1898	42	134	229	2148	1813	368	223	4558	4957	40,438
	1899	65	162	256	2303	1885	327	240	4771	5238	39,911
Greater New York	1898	69	238	398	3379	2722	558	360	7057	7724	64,294
	1899	98	264	416	3538	2837	522	340	7313	8015	65,343

NOTE.—It appears from this table that the deaths from phthisis constitute about one-eighth of all the deaths in New York City, and that about 91 per cent. of these occur between the ages of fifteen and sixty-five. Thus, for the years 1898 and 1899, in Greater New York, there were respectively 7724 and 8015 deaths from phthisis, of which 7054 and 7310 occurred between the ages of fifteen and sixty-five, or during the period of greatest productive capacity.

Only pulmonary phthisis or consumption is here considered, this being by far the commonest and most fatal form of tuberculosis and also the most easily preventable.

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TREATMENT OF LUPUS.[1]

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TUBERCULOSIS of the skin is one of the most interesting of dermatological lesions, not only from its prognosis, but from its common etiology with one of the most fatal and wide-spread diseases of the country. I feel no hesitancy, therefore, in presenting this paper to the general practitioner, and trust, with some clinical illustrations, that it may be of profit.

Long before the discovery of the tubercle bacillus, Friedländer pointed out with clearness a histological resemblance of lupus to tuberculosis in other organs of the human structure, and in lower animals. Lupus, tuberculosis cutis, and scrofuloderma, before the investigations of Koch, were diseases classified as distinct dermatological manifestations, the true etiology of which was unsuspected. At present through the discovery of the tubercle bacillus, they are placed under one common cause, although differing widely in clinical symptomatology.

It is now positively proven by inoculation, microscopical and pathological research, that the tubercle bacillus is the true cause of lupus in its many classifications, except lupus erythematosus in which the tubercle bacilli has not as yet been found and which, therefore, cannot be classified as tuberculosis of the skin. Therefore, tuberculosis cutis is an infectious, chronic disease of the skin and mucous membrane caused by a specific organism, characterized by deep and superficially-seated nodules which tend to absorption, ulceration or cicatricial atrophy.

The wide clinical field of lupus is more clear if we note the site of the tubercle in the tissue in which the infection is located. In scrofuloderma the tubercle starts in the subcutaneous connective tissues, attacking first the glands with deep ulceration, a term used by dermatologists to cover up many sins of the diagnosis in the past.

In lupus vulgaris the tubercles in the corium extend upward with ulceration, but fewer in number, not so large an area is affected as in scrofuloderma, while in tuberculosis cutis the tubercle in any situation grows rapidly and contains large numbers of tubercle bacilli, but with less tendency to ulceration. The pathological morbid anatomy of the tubercle in these affections has the same groundwork and depends upon the activity of the Koch bacillus.

In the treatment of cutaneous tuberculosis we have as yet no specific serum that can neutralize the virus and produce absorption of the tubercle. Our expectations, so brightened by Koch in 1889 with the first reports of the treatment of lupus by its advocates, have gradually faded. With the use of the serum there was temporary improvement, but the pronounced reaction of the serum endangered life and caused its abandonment, and relapse soon occurred. Internal treatment alone has nothing, therefore, to offer, except when the patient's general condition is below par, when the use of internal medications, such as tonics, is indicated; yet many persons afflicted with this disease enjoy the best of health in every other particular.

External treatment may be divided into surgical and mechanical. Excision has been used with good results, but will always meet with objections when the lesions are on the face, since skin-grafting must be resorted to in this method, and healthy skin is often sacrificed and recurrence is common in the new skin.

The most satisfactory surgical treatment in my hands is the curette. With a common dermal curette one is able with but little experience to distinguish readily the healthy tissue from the broken-down cheesy degeneration of the tubercle. In this method one does not destroy bands or islands of healthy tissue, which if left aid far more in healing than the skin-graft which would have to be used in excision. In this treatment it is always best to operate without freezing mixtures, as anesthesia by such mixtures alter the color and texture of the tissues, and thus render it difficult to see or feel the diseased areas.

Linear scarification is a treatment that has been used with success in cases that are new and not broken-down. I have never made use of this method, as it is slow and objectionable.

Electrolysis is advocated by Dr. Jackson, who reports good results in recurrent lesions. I have used his single-needle methods in few cases, all of which have proven very satisfactory. A small galvanic battery is used, one that can be relied upon to give an even current, an epilating needle-holder, platinum needle, and good light are the accesories. The lesion is first sponged with ether, the positive pole is then placed in the hands of the patient, and the negative pole contains the needle and is passed directly into the tubercle. A current of two milliamperes is sufficient, just whitening the tissues without burning them. The needle is swept around in the tubercle for about ten seconds, then withdrawn and passed into the same tubercle from the opposite direction, being careful not to burn epithelium, in which case ulceration and scarring result. The effect of electricity upon the tubercle nodule or lupus is two-fold, the heat destroys the germs and the electricity stimulates cell-changes.

Mechanical treatment consists in the use of escharotics and caustic pastes which will most rapidly destroy the tubercle. Those that meet with most favor are those that will destroy diseased tissue and not have any effect on the surrounding tissues. Nitrate of silver stands first, either in stick form or in solution. Patients prefer it to the knife, although it is painful. It will penetrate and destroy the isolated tubercle, as well as the infiltrated area, will spare healthy tissue, and is unattended with danger.

[1]Read before the Detroit Medical Society.

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Arsenical pastes, although more painful than silver nitrate, destroy diseased tissue only. Their action is more rapid, but they cannot be applied to large areas because of absorption. All cases treated by caustics should be seen every twenty-four hours. Many of the stronger acids have been used, but they are objectionable because they destroy healthy as well as diseased tissue. Pyrogallic acid is an exception and possesses an advantage over the others by attacking diseased tissue only, and its use is not attended by any bad results. Whatever may be the line of treatment followed, either surgical or mechanical, one may be compelled to use both methods.

My purpose in presenting the subject of lupus was to bring before the Society a treatment comparatively new, concerning which good reports are reported from abroad, as well as from this country. This treatment is by means of the X-ray exposure. Dr. Pusey of Chicago, in a paper not long ago, reported treatment of grave recurrent lupus and other chronic skin affections. In his experiments he discovered that a number of exposures would blanch the hair, destroy the hair bulb, stimulate nutrition of chronic indurated lesions, and reduce inflammation. Upon these observations, the treatment of chronic skin affections was based.

In passing the X-ray through the spectroscope, one sees at the chemical end of the spectrum a combination of two of the primary colors, red and blue, or ultra violet. It is I believe by the action of the stronger chemical colors that the stimulating influence on the tissues by the rays is produced. This is the same principle as that devised by Finsen, in which he used the ultra violet rays of white light. The results are about the same, except the X-ray is somewhat more rapid in its action with shorter exposures, and larger areas may be treated at one sitting than by Finsen's method, so there must be some similarity in the fundamental agencies of these methods.

The treatment of lupus by the X-ray has many advantages. It is painless, the exposures are short in duration, the area treated may be of any size or location, no scarring from treatment if exposures are properly conducted, the time of exposures is regulated by the density of the rays, and the results are evident with much less scar tissue.

The antiseptic power of the X-ray is as yet unsettled. Some of the investigators say that the tubercle bacilli will thrive under any exposures to the X-ray, while others claim that they are destroyed. I have with me a series of tubes inoculated from a pure culture of the tubercle bacilli. Using two tubes as controls, I exposed all the tubes, one, fifteen minutes, three, a half hour, and two, three-quarters of an hour, through the opening of the tube four inches distant. I also exposed two tubes three-quarters of an hour through the glass. All the tubes were placed in the incubator at the temperature of the human body and the cultures examined every twenty-four hours. In forty-eight hours distinct growth was seen in all tubes exposed and not in the control tubes. Since the average time for culture of this germ sufficient to show growth is about six days, a marked acceleration in the growth of the germ was brought about by exposure to the rays; therefore it cannot be said that the action of the rays on lupus lesion is an antiseptic one.

The following case is a typical one, showing the effects of treatment by this means:

Mr. G. was born in Germany in 1834. He emigrated to the United States in 1868, was a painter by occupation and has always been in rugged health. No tuberculosis in family. In December, 1899, he noticed a pimple on his left forefinger which he thought was the bite of some insect; no attention was paid to it, but in a few weeks it became more inflamed, and instead of subsiding it became more irritable. In two months it had increased in size to such an extent that it warranted curettement, and was thoroughly curetted by Drs. Marker and James, and dressed antiseptically. The lesion remained stationary for over two weeks, when the hand began once more to swell and there was infiltration into the deeper structures of the skin with rapid growth.

When I first saw the lesion this was the history: Formalin had been suggested as an antiseptic dressing and the patient was brought into the Alumni Clinic and exhibited and diagnosed as a typical tuberculous lesion of the skin by Prof. Carrier and others. It was announced to the Alumni that this case would be treated by exposures to the X-ray and the result reported. In July, before the exposures were begun, the lesion was covered with ulcerative tubercles, deeply seated. There was a watery discharge and marked induration of surrounding tissues which were much increased in size and were painful.

On July 21st the first exposure of eight minutes was given, the hand being held six inches from the tube; July 23d a second exposure of ten minutes was given after which the patient expressed himself as having less discomfort in the lesion. On July 25th there was another exposure of ten minutes; July 26th the fourth exposure of ten minutes after which there was a noticeable improvement. The inflammation became much less, the ulcers began to fill in from the edges, the discharge grew less and the induration of the tissues began to diminish in thickness. July 27th, a ten-minute exposure; July 30th, a ten-minute exposure; August 1st, a ten-minute exposure; August 3d, a ten-minute exposure. After these exposures there was the same marked improvement. The exposures were then discontinued and the lesion healed. In all there had been eight exposures extending over a period of fourteen days. During this course of treatment no dressing was applied to the lesion except the bandage.

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There was not any burning or change in the surrounding normal tissues, except slight blanching, slight atrophy, and stimulation of hair bulbs. In all of my skiagraphic and chronic ulcer treatment, I have had no X-ray burns.

A REPORT OF SOME CASES OF ABDOMINAL SURGERY, WITH REMARKS ON THE DIAGNOSIS OF CARCINOMA OF THE CECUM AND THE SURGICAL TREATMENT OF CARCINOMA OF THE LIVER AND THE GALL-BLADDER.

BY CHARLES GREENE CUMSTON, M.D.,
OF BOSTON, MASS.

(Continued from page 219.)

THE next case is one of extreme interest and rarity; it is one of carcinoma of the cecum complicated by appendicitis, and, on account of the rarity of malignant growth in this region of the gut, I will ask permission to make a few remarks on the symptomatology of this affection after I have reported the case.

Case VI.—Mrs. C. F., aged forty-one years, was seen in consultation with Dr. Frederick Coggeshall, who gave the following history: Her antecedents were excellent, as well as her family history. Her father, mother, brothers and sisters are all living and in excellent health. About March 1, 1900, Dr. Coggeshall was called to see the patient who was suffering from the typical symptoms of appendicitis; the pulse was of a fair quality at 120, and the temperature was 38° C. (100.4° F.). There was much tenderness in the region of the appendix. The patient recovered from this attack in two days, but in the early part of May a similar and more severe attack occurred, the temperature being about 38.5° C. (101.3° F.) and the pulse ranging about 120. Again she recovered from this attack in a couple of days, but she said that during the interval of the attacks she had suffered considerably from flatulency and a tendency to diarrhea.

On May 20th Dr. Coggeshall removed the appendix which was found somewhat dilated and the mucous membrane in a state of hyperemia. There was a small erosion at one point of the mucous membrane near the tip of the appendix where the latter was adherent to the cecum. The patient made an uninterrupted recovery, but she continued to be troubled with flatulency and constipation while in bed. Two weeks after the operation she went out feeling very well, but within three or four days she again began to be troubled by attacks less definitely marked, but similar to those for which the operation of appendectomy had been performed. The tympanites and colic became constantly more and more frequent, the attack usually ending by bilious vomiting and one or two dark, watery stools. These symptoms were aggravated by being on her feet and would subside after a day's rest in bed. Tenderness over the region of the cecum was now constant, and the pain started from that point radiating toward the umbilicus. After about two weeks of apparent improvement the symptoms returned, and two points in the abdomen now became the special seats of distention with gas, namely, the region of the cecum and of the sigmoid flexure. The pain was now constant, but occurred in spasms corresponding to somewhat rhythmical dilatations with gas of the portions of the bowels just mentioned. The principal seat of pain had now shifted to the hypogastrium and umbilicus, and the patient was becoming weaker and losing flesh, and I was requested to see the patient.

Upon examination I found that by deep palpation of the right iliac fossa a small hard immovable mass could be detected apparently in the region of the cecum. The intestines were greatly distended and the entire abdomen was tympanitic, even in the right iliac fossa. The patient had vomited on several occasions during the three days previous to our visit, and it was with difficulty that a stool could be obtained. The pulse was of a fairly good quality, regular and about 100 to the minute. The tongue was furred, the eyes were sunken and the face pinched.

A diagnosis of intestinal obstruction seated in the neighborhood of the cecum was made, but the nature of the obstruction was a question; still, on account of the previous operation for appendicitis, it was thought probably due to adhesions constricting the gut and operation was advised. This was not consented to at the time, but, as all the symptoms increased in severity and the patient was very rapidly losing ground, five days later I opened the abdomen in the median line.

There was great difficulty in keeping the intestine out of the way on account of the great distention. The cecum was bound down in the iliac fossa, and, by passing toward the ascending colon, a small hard mass the size of a large English walnut was detected. A small transversal incision perpendicular to that in the median line was made in order to give more working space, and after a long and difficult dissection with the fingers the cecum and neoplasm were freed of the adhesions and brought up into the wound. The growth was an annular carcinoma of the intestine situated at the junction of the cecum and ascending colon. Search was made for enlarged lymphatic glands of the mesentery, but none could be found. At this point of the operation the patient, who had been in a very precarious condition, showed such a marked state of collapse that the time necessary to do a resection of the cecum and intestinal anastomosis could not be spared, and it was decided to make an artificial anus in the cecum with the hope that the patient might rally sufficiently to undergo resection of the cecum and part of the ascending colon in a short time. An artificial anus was made in the median line, according to the technic advocated by Mr. Cripps. The patient, however, only survived the operation a few hours.

The symptoms of carcinoma of the cecum have their importance because, by reason of the small number of cases that have been diagnosticated as such during life and have been reported, little

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attention has been given them in the classical works on general or special surgery. The commencement of the disease is usually remarkable by its latentcy, but always comes to an end as soon as the growth has developed sufficiently to be made out by palpation, and at this time the period of full development has been reached. The symptoms which first draw the physician's attention to the cecum do not always follow in the same order, but in the order of frequency of their apparition they may be classed as follows: (1) Pain; (2) alternating diarrhea and constipation; (3) loss of flesh; (4) dyspeptic disturbances; (5) intestinal hemorrhage. Occasionally the functional symptoms are absent, and only those are met with which occur when it has arrived at its full development, and thus we find reported cases in which the tumor in the right iliac region was detected before it had given rise to any other symptom, while in one case the affection made its presence first known by the formation of a fecal fistula.

Pain is usually the first symptom complained of by the patient and in the beginning has no precise localization, but later on it becomes localized in the right side of the abdomen, more particularly in the iliac fossa, and then it will shoot down the legs into the lumbar or sacral region, or toward the umbilicus, as in our case. In the case I have here related the pain, which followed a traumatism on the abdomen, never completely disappeared after the accident, and this has been the history in several other reported cases. Kraussold relates the history of a patient who received a kick in the right iliac fossa and pain persisted for six years with slight remissions, and then disappeared completely after a spontaneous fecal fistula had formed. Pain may be produced by movement, and in one case the patient who remained in bed lying on the back complained of pain as soon as any motion was imparted to the right leg. In other cases the pain was greatly increased if the patient became constipated, and would completely disappear after the bowels had been moved, while in other cases pain was constantly present and increased during meals; I would particularly insist on this point, because this symptom was very marked in our case. At other times it has been found to occur at regular intervals and always at the same spot.

During the early part of the evolution of the disease an alternating diarrhea and constipation are nearly always present. Sometimes these alternatives follow vomiting, while at others an alternating diarrhea and constipation are finally entirely replaced by a continuous diarrhea, which will most likely be relieved by some astringent mixture containing opium; but, nevertheless, the diarrhea may become uncontrollable and even be the cause of death. In other cases constipation becomes more and more obstinate and may give rise to symptoms of intestinal obstruction. There is hardly any case recorded where sooner or later the passage of feces did become sufficiently difficult to produce accidents of severe type, but the obstruction was in most cases simply temporary, and was relieved by proper medical treatment. In other cases diarrhea alone was present, and it may exist for a long time; the liquid feces have no particular pathognomonic significance; occasionally pus and blood or pus alone may be present.

Violent intestinal colic may be added after a time to the foregoing symptoms and become most excruciatingly painful and constantly present. It is the result of violent intestinal contractions due to the obstacle which is opposed to the downward movement of the intestinal contents by the neoplasm, and it reaches its maximum of intensity when the bowel has become completely obstructed.

Some patients become thin and lose their strength at the very onset of the affection, and the loss of flesh may be very rapid. Digestive disturbances have been frequently met with during the initial period of carcinoma of the cecum. They consist principally of nausea, vomiting, anorexia and difficult digestion. The vomitus is usually mucous, but it may become bilious and contain food. Fecal vomiting will occur if symptoms of occlusion arise, but they may subside spontaneously or by an appropriate treatment. In one case fecal vomiting occurred one year before any tumor could be palpated. Vomiting has been observed when the obstruction was not very marked. In other cases the vomitus was yellow and had a fecal odor, but was not fecal in nature, while other patients complained of a fecal taste in their mouth without having fecal vomiting. Many years ago Despres pointed out that when yellow vomitus with a fecal odor took place, or when patients complained of a fecal taste, carcinoma of the intestine should be at once suspected.

Intestinal hemorrhage is not a frequent symptom in carcinoma of the cecum, but small hemorrhages may occur which color the feces black; in a few instances the hemorrhage was sufficiently severe to become serious. In one case the blood was mixed with pus.

The physical symptoms are observed when the carcinoma of the cecum has attained its full development, and they characterize the disease. By far the most important is the appearance of a tumor in the right iliac fossa. In the early stages it is movable under the abdominal wall and also over the deeper structures. The neoplasm, which in the beginning is limited to the intestine, will finally invade the pericecal cellular tissue and throw out narrow adhesions between the diseased structures and the iliac fossa, or the neoplasm may become adherent to the abdominal wall. Later on the lymphatic glands become involved and their number and size vary very greatly in different cases. After the lymphatics have become greatly involved a large tumor may be felt which may project at a point quite distant from the primary neoplasm, as, for example, at the umbilicus or in the epigastric region. The tumor will now be found to be very adherent, and it may happen that from its size it compresses the

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iliac vessels so that an edema of the right lower limb will arise.

The next case is that of carcinoma of the gall-bladder with secondary deposits in the liver, and it is particularly interesting inasmuch as it is an additional proof that gall-stones are a causative factor in the etiology of carcinoma of the gall-bladder.

Case VII.—Mr. W. F., aged forty-nine years, had always been in excellent health with the exception of typhoid fever fifteen years ago. During the last seven years he had had frequent severe attacks of gall-stone colic accompanied by great pain and marked jaundice. For the last two years these attacks had become more and more frequent so that when I first saw the patient in January, 1897, he was having them on an average of every ten weeks. I attended him through three attacks of gall-stone colic as severe as I ever saw, and finally got the patient's consent to operate for their removal.

Cholecystotomy was done in September, 1897. The operation was very simple; the gall-bladder was not very much enlarged and was easily drawn up to the incision and sutured to the peritoneum. It might have been the size of a small Bartlett pear. After the gall-bladder was incised, it was found that its walls were of excessive thickness, measuring about 2½ centimeters. A small amount of bile came away through the incision in the fundus of the organ, and four large mulberry calculi, varying in size from a strawberry to a cherry were removed, as well as 25 or 30 smaller stones. Two large rubber drainage-tubes were placed in the gall-bladder and the remainder of the abdominal incision was closed. Convalescence was uninterrupted; the drains were removed at the end of ten days and the wound healed immediately, no fistula remaining, and the patient was discharged from the hospital in about four weeks.

He remained in excellent condition until May, 1898, when he came to me complaining of a fulness in the region of the gall-bladder, which interfered somewhat, as he thought, with respiration, especially when he went up-stairs or coughed, on which occasions he felt a few stinging pains. Palpation revealed a mass in the region of the gall-bladder, and the liver dulness was increased about one fingerbreadth below the border of the false ribs. In every other way the patient felt perfectly well; his bowels were regular and the stools were dark in color. His appetite was good, although his tongue was somewhat furred, and he slept well.

I made a diagnosis of carcinoma of the gall-bladder and advised immediate operation, which was done two days later. An incision carried along the external border of the rectus was made, and after exploring the abdomen it was found that the gall-bladder presented a large number of nodules over the surface, and that it was intimately adherent to the duodenum, the omentum, the abdominal wall, and the under aspect of the liver. After separating the adhesions, which was a rather delicate proceeding, it was found that the entire gall-bladder had undergone a carcinomatous transformation, and that on the border of the right lobe of the liver was a secondary deposit of the neoplasm, in circumference about the size of a 25-cent piece. Cholecystectomy was performed, the area of the liver to which the gall-bladder adhered being removed by the Paquelin thermocautery, and then we proceeded to remove that portion of the liver which had become secondarily involved. With the Paquelin a V-shaped resection of the liver was made, including the carcinomatous nodule. The piece of liver removed was triangular in shape and measured 11 by 6½ centimeters. On section it was found that the secondary carcinomatous nodule was entirely imbedded in healthy parenchyma, so that we felt sure that we had freely removed the growth. After the piece of liver had been removed, a large vein in the parenchyma of the organ began to bleed very freely and, as much blood was being lost and the hemorrhage could not be controlled by packing, a stout needle was passed through the liver parenchyma and brought out so that a ligature was passed around the bleeding vessel and tied, completely controlling the hemorrhage.

The large cavity left by the removal of the gall-bladder and the resection of the liver was packed with gauze, which was brought out at the upper angle of the abdominal incision, the remainder being closed in three layers of sutures. After this operation the patient made an uninterrupted convalescence; all the gauze packing was out by the end of a fortnight, and he was discharged well five weeks from the time of the operation. We saw the patient in August, 1900, at which time he was complaining of considerable pain in the abdomen, and was deeply jaundiced. Abdominal palpation revealed an enlarged liver, its borders reaching four fingerbreadths below the border of the ribs, and over its surface could be felt a number of nodules of carcinoma.

There is no doubt in my mind that at the present time the only proper treatment of cases of carcinoma of the gall-bladder and of the liver is cholecystectomy and resection of the diseased portion of the liver. Generally speaking, I believe that cholecystectomy as a typical operation should be confined to cases of severe inflammatory lesions and malignant tumors of the gall-bladder, which, as we all know, are most frequently carcinomatous in nature. The experiments carried out by Rose all justify the opinion that extirpation of the gall-bladder is only justifiable in cases of malignant transformation or severe inflammatory lesions, and Heddaeus says that in cases of extensive carcinomatous transformation of the gall-bladder cholecystectomy is the proper operation to select, and if the liver be also involved in the process, partial resection should be attempted.

Extirpation of the gall-bladder for carcinoma was first performed in 1887 by Bardenheuer, but the patient died shortly afterward from a cardiac embolus. Hochenegg of Vienna was the first to

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successfully remove the carcinomatous gall-bladder combined with extirpation of a good-sized piece of carcinomatous liver. His patient was a woman, aged fifty-eight years, who for six months had complained of pain under the right costal border, with loss of flesh and the presence of a tumor the size of a hen's egg in the region of the gall-bladder. The growth appeared to be very hard, and, as it could be displaced by palpation, it was uncertain whether it was connected with the liver or not, and the diagnosis of carcinoma of the pylorus, or of the colon, was made, which proved to be incorrect when the abdomen was opened. It was then found that the gall-bladder was considerably enlarged and as hard as stone, and a tumor the size of a walnut was found in the edge of the liver and had infiltrated the parenchyma of the organ to about two centimeters in depth. A loop of intestine which was adherent to the gall-bladder was peeled off and then drawing the right border of the liver forward, dissection was carried out as far as the cystic duct. The latter was freed of its attachments and then cut between two ligatures with a Paquelin cautery, and the part adherent to the gall-bladder was separated from it without much hemorrhage. Then the region of the liver which was infiltrated by the secondary deposit of the neoplasm was excised by means of a curved incision, which included normal parenchyma of the organ; hemorrhage was only moderate in amount. When the wound in the liver was brought together by sutures, these tore out, so it was decided to treat the part extraperitoneally, and in order to do this iodoform-gauze tampons were fixed in place by mattress sutures, the whole being covered by an abdominal dressing. When this was changed eleven days later the liver was found to be granulating well and a perfect cure was effected in six weeks after the operation. Seven months later no recurrence had taken place.

The gall-bladder which had been removed contained 52 stones, some of them the size of a cherry. The walls of the organ had undergone a fibrocarcinomatous transformation and were about 6 millimeters thick. The piece of liver removed measured 3½ centimeters in thickness and 4½ centimeters in length; the free border showed the presence of a carcinomatous infiltration, but the section had been carried in perfectly normal parenchyma.

Von Winiwarter has recorded the case of a woman, aged fifty years, who six months previously had become suddenly attacked with pains in the epigastrium without any apparent cause; they radiated toward the right and then suddenly disappeared. After this attack the patient felt quite well for several months, although there were certain digestive disturbances from time to time. During the past five or six weeks she again complains of pains, the attacks occurring five or six times a week and generally lasting from half an hour to an hour. The patient also complained of great weakness and general debility. The feces were at no time discolored, but small gall-stones were found from time to time. By palpation no tumor could be made out, and there was no apparent increase in the size of the liver, and a diagnosis of biliary calculi, with probable carcinoma of the gall-bladder, was made.

The abdominal cavity was opened by a longitudinal incision carried along the external border of the rectus muscle. The liver was found to be normal in consistency, while the gall-bladder had reached the size and shape of a medium-sized pear. It had contracted adhesions with the surrounding intestine and was quite as hard as cartilage to the feel. These adhesions were ligated and cut and the fundus of the gall-bladder was temporarily walled off from the peritoneal cavity by strips of gauze, after which it was opened. The wall of the organ at its fundus was nearly a centimeter thick, and presented a carcinomatous transformation. Near the upper surface, which was toward the liver, the wall of the organ became thickened forming a nodule the size of a hazelnut. The gall-bladder contained but a small amount of bile, and over a dozen small, light, faceted calculi. The carcinomatous wall of the gall-bladder had become intimately connected with the parenchyma of the liver, and at the sharp border of the latter there was a whitish nodule of carcinoma the size of a walnut, set in the parenchyma of the liver. The cavity of the gall-bladder was emptied and then packed with tampons, and then silk ligatures were carried through the liver substance and tied, after which the incision was carried into the normal parenchyma of the organ with the knife of a thermocautery, and the piece was removed without hemorrhage. Sutures were then passed around the carcinomatous nodule in the liver, and a wedge-shaped piece containing the secondary deposit was excised. The cystic duct was then isolated, but the operator was obliged to go as far back as the ductus choledochus, because at this point there was felt a small nodule and it was uncertain whether or not it was a stone or a malignant deposit. A ligature was then passed beyond this nodule and the entire gall-bladder with the cystic duct and pieces of liver were removed. The pedicle was then drawn out and united to the parietal peritoneum by means of sutures. The stump contained the commencement of the ductus choledochus as well as the opening of the hepatic duct. The cavity was then packed with idodoform gauze and the remainder of the abdominal wound was closed by layers of buried suture.

The specimen showed that the wall of the gall-bladder had become thickened to about double its natural size; it was fibrous and interspersed with very hard, white nodules the size of a hazelnut while the nodule removed from the liver microscopically proved to be a secondary carcinomatous deposit.

Within two weeks after the operation a roundish growth the size of a hazelnut was noticed at the bottom of the fistula which had existed since the operation. This nodule had evidently developed from the suspicious formation which was

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present on the surface of section of the ductus choledochus, and the recurrence had started and developed so rapidly that the patient died six weeks after the operation.

(To be Continued.)

CLINICAL MEMORANDA.

PREGNANCY AND TYPHOID.

By G. H. B. TERRY, M.D.,
OF WYALUSING, PENNSYLVANIA.

ON October 26, 1900, Mrs. M. G., aged twenty-nine years, during the fourth month of her third pregnancy was attacked by typhoid fever. The temperature during the first week rose to 104° F., pulse 112. The symptoms then gradually abated and the patient was convalescent at the beginning of the fourth week.

On April fifth following the attack the patient gave birth to twin girls, healthy and weighing respectively six and seven pounds.

The diagnosis of typhoid was at no time in doubt, but was strengthened by the fact that a sister of the patient contracted the disease while engaged in nursing the case referred to and also by the fact that a member of another family who moved into the same house contracted the disease a few months later.

The case is interesting, showing as it does that pregnancy, even a twin pregnancy, does not confer immunity to typhoid, as was at one time taught, and that however undesirable it may be to have pregnancy exist during the disease, it does not necessarily interfere with its favorable termination.

FOREIGN BODY IN THE URETHRA.

By H. W. CLOUCHEK, M. D.,
OF ANN ARBOR, MICHIGAN.

A PECULIAR case came under my notice in December which I thought might interest your readers, having noticed various articles in the MEDICAL NEWS of cases with foreign bodies in the urethra.

The history of the case, in brief, is as follows: A. D. S., male, aged seventy-two years, American, contractor, married, was admitted to hospital December 6, 1900, because of pain in the bladder and difficulty in passing urine. The patient has had heart trouble and a double hernia. The present trouble began about four years ago with trouble in holding the urine. A physician at that time sounded, found a stone in the bladder, and advised operation. This was declined by the patient. Four or five weeks ago he was unable to urinate and inserted a straw of "barn grass," about seven inches long, into the urethra in order to relieve pain. On letting go of the penis its head was drawn over the end of the straw and the patient was unable to extract it. Three days later a brick-dust material came away, then blood and pus. The discharge of pus has continued up to the present time. The urine is dark and cloudy and contains large amounts of albumin and pus. Examination shows the straw in the urethra extending up into the bladder. I have known of many articles being used as a catheter, but this is the first instance which has come under my observation in which a straw was employed for this purpose.

MEDICAL PROGRESS.

Active Principles of Digitalis.—Much uncertainty has always existed concerning the relative value of the several preparations of this drug, and especially in regard to the physiological action of the various active principles which have been so poorly isolated. The rules governing the selection, gathering, preservation and preparation of this drug are so lax that certainty of action cannot be expected. L. L. SOLOMON (*N. Y. Med. Jour.*, Feb. 9, 1901) enumerates the glucosides as six forms, of digitalin, digitoxin, digitophyllin, digitalein, digitonin and digitin. The solubilities of the several principles are not identical and, hence, the activity of a tincture, a fluid-extract and an infusion are by no means the same. Digitonin, readily soluble in water, sparingly in alcohol, is a cardiac depressant, antagonizing the cardiac action of digitalin and digitoxin, but it is the most active diuretic principle and is very irritant to the stomach. Digitin is inert and very little is known of digitophyllin. Digitalin, digitalein and digitoxin are all cardiac stimulants, acting on the heart-muscle. Digitalin is unique on account of its special influence in contracting the blood-vessels, increasing the pressure and slowing the heart. Digitoxin does not raise pressure and, as has been demonstrated, dilates the renal vessels. The therapeutic value of the latter preparation when isolated is, therefore, much enhanced. Digitoxin acts quicker than digitalin, sometimes within twelve hours, is less liable to cumulative effects, and much more diuretic. The uniformity of its action and strength will make it a very valuable drug. It is administered hypodermically or by the mouth, in doses of $^1/_{250}$ to $^1/_{1000}$ of a grain. Since it is liable to be precipitated on coming in contact with the secretions, the author has found the following an admirable vehicle:

℞	Digitoxin	(gr. $^1/_{250}$)
	Chloroform	(♏ jss)
	Alcohol (90 %).....	(♏ xxiij)
	Aquæ .....q.s. ad.	(℥ ss)

Congenital Hypertrophy of Cervix Uteri.—ABRAM BROTHERS (*Am. Gyn. and Obstet. Jour.*, Jan., 1901) reports the case of a girl, seventeen years of age, who presented this rare condition. She began to menstruate at eleven and was always regular. When she was fourteen years old she noticed the womb projecting from the vulva.

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She underwent an Alexander operation at one of the large hospitals, but left at the end of five weeks absolutely unrelieved. From that time, until she came into the writer's hands, she went from one doctor's office to another. Brothers found a slim, delicate, anemic child, with an expression of anguish on her face, who walked with body bent forward, evidently suffering great pain. She was feverish and complained of anorexia, vomiting, diarrhea, and pelvic pain. The cervix was eroded and protruded one inch from the vulva. There was a cystocele and also a rectocele. A thick mucopurulent discharge filled the uterine canal. The uterus was large, and on both sides of it were large, boggy masses, tender to the touch. A diagnosis of complete prolapse of the uterus, with bilateral pyosalpinx, was made and the uterus and pus tubes were removed in one mass. The girl left the hospital on the sixteenth day, and when seen six months later was still perfectly well. Measurement of the uterus showed that the distance from the fundus of the uterus to the internal os was one inch and that between the internal os and external os was two and a quarter inches. Therefore, the case was one of congenital hypertrophy of the cervix, associated with prolapse of the uterus and later complicated with bilateral pyosalpinx. Brothers thinks that the pyosalpinx was the result of the free use of sounds, etc., while the girl oscillated from one doctor's office to another, and that there was no reason to suspect a gonorrheal origin.

Intestinal Hemorrhage and Fatty Heart.—A patient, fifty-eight years of age, usually very well, was operated on by C. PHELPS (*N. Y. Med. Jour.*, Feb. 9, 1901) for an umbilical hernia. During the anesthetic he was very cyanotic and his breathing was irregular. He reacted well, but on the third day his pulse and temperature were very high and on the fourth day signs of internal hemorrhage and collapse appeared. Much blood was passed from the bowels and some was vomited. Autopsy showed a healthy wound and peritoneum, a moderate cirrhosis and a very fatty heart. The muscular walls of the right ventricle were not much thicker than paper. The additional strain of the anesthetic and operation is supposed to have overburdened a weakened heart and induced sufficient congestion to result in hemorrhage from the intestinal and stomach mucous membranes.

Retropharyngeal Abscess in Adults.—This condition rarely occurs after the age of four. Bokay classifies retropharyngeal abscesses as follows: (1) Idiopathic abscesses; (2) secondary abscesses from disease of the cervical vertebræ or from irrigation of pus from a superficial cervical adenitis; (3) septic abscesses; (4) abscesses from trauma. J. L. GOODALE (*Boston Med. and Surg. Jour.*, Jan. 31, 1901) reports a case of retropharyngeal abscess of special interest, because of the age of the patient and because of the demonstration of tubercle bacilli in the pus. The patient was a youth, eighteen years of age, who, though feeling perfectly well, complained of a swelling in the back of his throat which had been developing for four weeks. Examination showed a bulging forward of the whole posterior pharyngeal wall, due to the fluctuant swelling extending downward from the level of the soft palate. The mucous membrane over the swelling appeared normal. A free incision was made and about four ounces of pus evacuated. A guinea-pig, inoculated with the pus, was killed seven weeks later and showed all the characteristic lesion of tuberculosis. This case seems unquestionably one of tuberculous retropharyngeal lymphadenitis, ending in suppuration. The writer says that he has been unable to find in literature any report of a case of tuberculous retropharyngeal lymphadenitis in the absence of caries of the spine, such as the case he now reports.

Infantile Scurvy.—This condition is, in most instances, one of the easiest of all the diseases of infancy to diagnose, as well as to treat. In some cases it is more difficult to recognize, generally because at first the symptoms simulate other affections, particularly rheumatism. CROZER GRIFFITH (*Phila. Med. Jour.*, Feb. 2, 1901) reports in detail sixteen cases, most of which presented symptoms simulating rheumatism. In some of these cases a diagnosis of rheumatism had been made by the attending physician. Pains in the arms or legs were an early symptom in these cases, followed by a swelling and redness, and also bleeding of the gums. The children also lost flesh and became peevish and fretful, crying a good deal. The pains in the legs were often of an intermittent character, sometimes disappearing for days. In some of the cases the diagnosis was rather difficult, being established only by treatment. In one case hematuria was the sole symptom of scurvy, and this disappeared completely after a few days' treatment with orange-juice. The cause of scurvy is clearly dietitic, yet no one dietetic fault can be held responsible. Most of these cases had been fed upon some commercial food, such as Horlick's Malted Milk. One of these cases promptly got well by the simple omission of the patented food from the dietary. In some cases the sterilization of milk has seemed to produce the disease. The affection of the gums is not usually the first symptom of the disease, and the disease may exist without it. This symptom is usually absent if no teeth have appeared. Pain, oftenest in the legs, is most frequently the first symptom, and this fact is the cause of so many mistakes in diagnosis. This is the reason scurvy is so often called rheumatism. The treatment of the disease is simple, and consists of a proper alteration of the diet and, even without this, the administration of fresh fruit-juice. Orange-juice, without any change of diet, brought about a prompt recovery in several of these cases. The diet should not be altered too quickly, lest this cause a fatal diarrhea or gastritis. Raw milk is to be preferred to heated milk, when it can be safely used.

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Renal Insufficiency.—It is always important to ascertain the amount of solid matter excreted by diseased kidneys and also helpful in many cases of functional disturbances in elimination. J. T. JELKS (*N. Y. Med. Jour.*, Feb. 9, 1901) gives an easy method of making such a determination. The entire amount of urine passed during the twenty-four hours is collected. Take the specific gravity and multiply the last two figures by the coefficient of Häser, 2.33. This will give the number of grams in 1,000 cubic centimeters of urine, and the total amount can be easily obtained. A normal adult man should excrete from 1,000 to 1,200 grains according to his weight.

Corporeal Specific Gravity.—Although the absolute weight of the body is a valuable sign in determining the physical condition of a patient, yet it does not always reflect the true state of health, for a very heavy man need not be obese, nor need a light man be emaciated. Much more definite and valuable assistance can be had from the determination of the specific gravity. H. STERN (*Med. Rec.*, Feb. 9, 1901), after considerable experience, suggests that the simplest method of ascertaining this point is by the Archimedean principle by which the density is obtained by dividing the absolute weight of the body by the loss of weight which it sustains when suspended in water. He believes that if the specific gravity is below 1,063 or above 1,073, unsoundness of the organism is denoted. Low density means satiation with water or preponderance of adipose; the high figure means disturbed metabolism, general atropic state, or senility. There is also a greater predisposition to infectious diseases when the density is low, and increased susceptibility to eliminative disorders when it is high. Strength and endurance are deficient among those at either extreme, and the duration of life depends so much upon corporeal density that this physical sign should become a valuable one to life-insurance examiners.

Amœbic Abscess of the Liver.—Four cases of this disease are reported by C. R. DARNALL of the U. S. Army Hospital-ship "Relief" (*N. Y. Med. Jour.*, Feb. 9, 1901), two being fatal. Amœbæ coli were found in the pus of all cases. Dysentery was present in only two. Pain in the right shoulder and right hypochondrium, tenderness and moderate fever were present in all. There were no chills, and sweating was moderate in only two patients. Emaciation was extreme and moderate leucocytosis characterized all. The appetite continued excellent and there was no nausea or vomiting in any patient.

Obliteration of Right Ureter by a Calcified Fibroid.—MAURICE H. RICHARDSON (*Boston Med. and Surg. Jour.*, Jan. 24, 1901) reports the case of a woman, fifty-eight years of age, which illustrates the dangers of leaving an old fibroid unmolested. The patient had always been well until ten years ago when she noticed in the right lower abdomen a tumor, which gradually increased in size. She had had two children and had always menstruated regularly until the menopause, which occurred when she was forty-five years of age. At times she complained of more or less pain from this tumor. She began to have frequent and painful micturition about three years ago, and at times she was unable to hold her water. The urine was cloudy and the odor became quite foul. There was loss of weight and appetite, and the bowels were constipated. On examination a large fluctuating tumor of the lower abdomen was found. On exposure of the tumor it proved to be a fibroid of the uterus, upon which was a large cyst. The tumor was either a uterine fibroid closely connected with a cyst of the broad ligament, or a fibrocyst of the uterus, and was deeply attached. The deeper portions of the tumor on the right side were calcified and of stony hardness. Separation of the tumor was exceedingly difficult. A clear liquid was noticed welling up from the deep parts. The source of this fluid proved to be the right ureter which had been torn transversely. This ureter apparently ended at the calcified portion of the tumor, as no distal orifice of the ureter could be found. Above the orifice the ureter was dilated and tortuous, and the pelvis of the corresponding kidney much dilated. The proximal end of this ureter was freed from the surrounding tissues, until it could be brought to the collapsed bladder. A small opening was made into the bladder, into which was thrust about half an inch of the ureter. The bladder about the ureter was then carefully sutured to the sides of the ureter with interrupted sutures of fine silk. The sigmoid flexure was also involved in the tumor, the removal of which necessitated a few stitches of silk to close the hole made in that viscus. The convalescence was uneventful and recovery complete.

Cause of Cancer.—When the parasitic theory in regard to the etiology of cancer was advanced several years ago, it was believed that much of the mystery surrounding this condition would soon be dispelled and methods of treatment much improved. The results of years of investigation have been, however, very unsatisfactory and the physician is still groping in the darkness of speculation. P. R. COOPER (*Med. Chron.*, Dec., 1900) believes that too much attention has been paid to the parasitic theory, not because it is improbable or impracticable, but because the relation between the physiological growth and the pathological overgrowth of proliferating tissue cells has been overlooked. Instead of wondering why the cells in certain parts of the body should become multiplied so fast and extend beyond their normal bounds, it should really astonish us more to see how cleverly Nature normally governs cell-proliferation, so that in the natural growth, maintenance and repair of the body, in spite of the rapid reproduction of cells, the development of each one is so controlled that it

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passes through a series of differentiating stages and, finally, as a mature cell assumes its particular function. Undoubtedly, cancer cells are in some way developed from the normal growing cells of the tissue in which the tumor appears. Cohnheim believed that the fetal inclusion of embryonic cells was responsible for the later abnormal overgrowth, but this theory is unnecessary. Normally, cells of an embryonic type, possessing powers of reproduction, exist in nearly all parts of the body and the microscope reveals all the intermediate stages between this "mother cell"—"histogenic cell"—and the active adult cell. The typical cancer cells resemble very closely their embryonic prototypes, but instead of the activity of the reproductive process being governed by the needs of the body, the formation of new cells is apparently without any definite purpose or direction. The newly-formed cells are devoid of any tendency to development and the more malignant the tumor the more embryonic they remain. The cell increase goes on unchecked and healthy tissues are invaded. In simple tumors and inflammatory conditions, however, excessive production of cells occurs, but they undergo development and never transgress normal boundaries. The essential difference between the normal histogenic cell and the one which produces the cancer cells seems to be that the latter has lost the capacity for development and differentiation. This "integrating" power which is, doubtless, transmitted through the nucleus may have been faulty from the first and malignant tumors of infancy or childhood may result. Again, it may be easily exhausted by a number of extra demands such as a chronic irritation, and cell-proliferation would then result in the accumulation of embryonic or malignant daughter cells.

Membranous Colitis.—This may be primary, due to enteroptosis, bacterial fermentation, infection, lack of digestive ferments, or intestinal calculi, writes JOHN A. ROBISON (*Medicine*, Jan., 1901), or secondary, due to dyspepsia, traumatism, and grave cachectic conditions, septic and infectious diseases, and cancer. The patients are usually over twenty, mostly women, small-boned, neuropathic, pale, and seldom bed-ridden. The skin is moist and is subject to eruptions, urticaria, eczema, etc. Insomnia is marked and the sleep of early morning may be disturbed by frequent movements of the bowels. The tongue is dry, thickly coated, the gums spongy, the breath foul, and nausea without vomiting is frequent. The stools are thin, watery, sometimes bran-like, foamy, and at times large quantities of mucus, or membranous shreds are present. Tenderness along colon, cramps relieved by heat, but not by pressure, and rectal tenesmus are common. The urine is scanty, high-colored, containing indol. Renal insufficiency is marked. The act of defecation is often painful, and may be accompanied by griping pains, prolapse of the bowel and the passage of blood and mucus. In most cases the diet should be nourishing, well cooked, and tempting. A flannel abdominal bandage should be worn. The patient should be free from care, and take light exercise in the open air. If the kidneys are not acting, give saline diuretics, alkaline waters, hot-air baths, etc. Great relief may be obtained from rectal flushings with warm water, one-per-cent. boric acid or salt solution, or 1-to-2000 silver nitrate. The author values rectal injections of methylene blue, one grain to a quart of water. The antiseptics useful for the bowel are bismuth salicylate, salol, betanaphtol, thymol, benzoic acid, menthol, guaiacal carbonate, and creosote.

THERAPEUTIC HINTS.

Lateral Curvature of Spine.—Direct general muscular exercises alone, writes CHISOLM WILLIAMS, do harm in most cases, so treatment is directed to (1) the general condition; improved by fresh air and food, and as a rule fresh clothing made to allow chest development; also hypophosphites, cod-liver oil, and bland preparations of iron; (2) getting the spine straighter by manual and mechanical pressure, Barwell's rachilysis, Barwell's lateral sling, Volkmann's sloping seat, and weight pressure; (3) keeping the improved position by a Chance adaptable metal splint; (4) special exercises for each weak muscle or group of muscles until the spine is straight, then general exercises to keep it so; (5) massage, galvanism, and rubber exercisers. Under the age of five years a leather or gutta-percha splint, suitably padded, is sufficient to overcome the curve.—*Pediatrics.*

Massage of the Stomach.—According to GUSTAF NORSTRÖM, on account of the deep situation of the stomach and the slight resistance of the deep plane on which it rests, only a limited portion of the viscus can be reached in dorsal decubitus. For dilated stomach the author kneads at first from left to right with patient on back, the knees bent and head raised. After a few minutes he has patient lie on right side, and petrissage is performed with both hands alternately, from pylorus toward cardia. Gentleness is necessary during the séance. The sittings should last about fifteen minutes for stomach alone, and as much more time for the intestine, if there is constipation. They should begin two or three hours after a meal. The benefit most often shows first by a returning appetite, then by the disappearance of the rumblings, eructations, gastric pains, headache, vertigo, etc. At the beginning of treatment the diet must be light and limited in quantity. Besides dilatation of the stomach, massage is of benefit in chronic gastritis, dyspepsia, essential gastralgia, gastralgia due to neurasthenia or anæmia, pyloric cramp, etc., but it may do harm in ulcers or tumors of the pylorus.

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SATURDAY, FEBRUARY 16, 1901.

BELLEVUE, THE GRAND JURY AND THE MEDICAL BOARD.

To lay blame, and plenty of it, on Bellevue and everybody connected with it, is at present the function of the reform party and the privilege of the newspaper man. We do not withhold blame, having freely expressed ourselves in the columns of the MEDICAL NEWS on the deplorable mismanagement of the city's hospital; but we do discriminate in the matter of laying it on.

Possibly the Grand Jury, in its laudable and efficacious words of censure, were more anxious that the facts should be brought to light, than careful on whom they put the responsibility for the condition of affairs.

The Grand Jury holds the Medical Board directly responsible for the administration of Bellevue. This unfair implication shows utter lack of knowledge of the real method of Bellevue's management. It is because the Medical Board has had no authority, without the approval of the Commissioner, that the hospital has been so mismanaged. The very abuses which the Grand Jury lays at the door of the Medical Board have been repeatedly presented to the Commissioner in reports by the Medical Board, and have been received with delayed attention.

The Commissioner has replied that there was not money enough to carry out the suggested reforms. Now that the city's attention has been aroused, lack of funds cannot longer be made an excuse.

The Grand Jury's presentment has at least had the effect of making the Commissioner agree with the Medical Board that there are abuses to reform; and has outlined the deplorable state of affairs which is only too familiar to every physician who has ever served on the staff or board of Bellevue.

The reception office is utterly inadequate to the demands made upon it. The sober, the intoxicated, the very sick and the fatally injured of both sexes must be received in a room that is too small and by physicians who must not only examine and distribute the patients, but do the clerical work of admission as well. The Medical Board ask for a suitable room, and a clerical assistant to take histories.

The Insane Pavilion, from which the first scandals issued, falls between two stools in its management. The attending physicians are paid by the city, and are not under the control of the Medical Board, and the staff physicians, who are held responsible, have had no training in the treatment of the insane. It is asked that there be a competent, well-qualified physician with a suitable salary who would devote his time exclusively to their care, and an assistant resident physician, so that the Insane Pavilion would never be without some expert physician directly responsible for its management. The nursing service of the male ward of the Pavilion should be in the charge of a carefully-selected supervising graduate nurse, assisted by trained attendants, and there should be separate wards for alcoholics and epileptics.

The dispensary is described by the Medical Board as being in a "state of vicious decay," and needs a paid superintendent who will see that the appointees attend to their duties regularly, and that the pilfering of medicines, bandages, and instruments be made to cease.

The accommodations for the paid help are miserable and dirty, and for the nurses and resident staff they are wholly insufficient. The attitude hitherto toward this state of affairs has been that reform needs money, and, the money not being forthcoming, the abuses must be considered as non-existing. Now that everybody, Commissioner, Medical Board, and staff frankly and freely admit them, the question remains, Will the

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city give the money and reform the management?

It is a disgrace to New York to think that Bellevue has such a low *per capita* allowance, compared with that of any private hospital in the city. The ratio is $1.21 per day against an average of $1.98 for each patient in other hospitals. The Medical Board say on this subject: "Decent service requires fair pay and decent accommodations. To which end we earnestly recommend that the main hospital building be replaced by a modern and commodious structure, and that the *per capita* allowance for conducting it be increased to a figure approximately that under which other hospitals live."

As Bellevue cares for more patients during the year than all the large private hospitals in the city combined, it is most important that, if its funds be increased, they should be properly managed; and we can but reiterate what we have said very emphatically in a previous issue of the MEDICAL NEWS, that we hope the Charity Commission reform will be carried through and the management of Bellevue be vested in a Board of unsalaried trustees, as outlined by the Charter Revision Committee.

DISINFECTION OF THE URINE IN TYPHOID FEVER.

ALTHOUGH it has been known for some time that the bacillus typhosus may be present in the urine of typhoid fever cases, it is only very recently that the frequency of its occurrence here has been appreciated by investigators. As yet, this knowledge can scarcely be said to be universal in the medical profession. Judging from the bacteriological observations of Blumer, Wright, Besson, and Petruschky, upon the urines in typhoid fever, but more particularly upon the more comprehensive and recent work of Horton Smith, Richardson, and Gwyn, it is probable that in at least 30 per cent. or more of the cases typhoid bacilli are present in some stage of the disease; some estimate their presence as high as 50 per cent.

In most of the cases the bacilli appear in the urine generally toward the second or third week of the disease and soon disappear; but evidence seems to show that in only about ten per cent. of the cases do they persist throughout convalescence. In many cases they have already been shown to be present in the urine for periods of months; indeed, in one case reported by Houston the typhoid bacilli had existed in the urine for several years. Ordinarily they are present in pure culture and often in great numbers; despite this there may not be any change in the appearance, or composition of the urine, nor need there necessarily be any appreciable lesion in the kidneys or elsewhere in the urogenital tract. Sometimes, however, signs of cystitis or renal implication are noticeable.

Realizing the possibilities of spreading the disease through this source, the Board of Health of New York City has had circulars printed calling attention to the importance of proper disinfection of the urine in typhoid fever. The disinfection of the urine should be continued at least until health is completely restored. Almost any of the standard germicidal solutions may be employed for disinfection, carbolic-acid or bichloride-of-mercury solution will be found safest. Urine to which has been added one-third of its volume of a one-to-twenty solution of carbolic acid is thoroughly disinfected in a few minutes.

THE STATE BOARD OF CHARITIES.

THE bill to abolish the State Board of Charities, and substitute a Commission of three persons to perform their duties virtually means abolishing anything like regular inspection of the charitable institutions of the State which are supported in whole or in part by public funds. Economy is a very laudable virtue, but it is a short-sighted economy that substitutes a political office for an old, well-ordered and proved system. As the *New York Evening Post* says in commenting on the proposed bill, "The members of the State Board of Charities and their employées acquire knowledge with each visitation. They accumulate their experience and record it. As they serve without salaries, and are themselves tax-payers, they have every motive to insist upon good and economical service. The last thing that the average politician thinks of is the saving of money for the State. If the Board of Charities is abolished it is almost certain that more will be spent in the State's charitable institutions than now, and that the inmates will get less value for it."

The problem before the State is not merely how to board and lodge at a minimum cost, the 60,000 bodies that are either socially defective or helplessly dependent; but how to order, discipline and repress them to their mutual advantage and the good of the State.

The State of Maine has tried to save expense

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by refusing to create a State Board of Charities, and each town has provided for its paupers as it has seen fit. The happy thought of marrying female paupers to male paupers in other towns resulted in the union of two half-witted individuals. But when the bridegroom brought his wife from her almshouse to his, the one town sued the other for fraud, and it is said that the costs of the litigation have been "enough to take care of all the paupers and keep the town roads in good condition besides." We do not desire to imitate the example of Maine; nor do we desire to have our pauper bills miraculously increasing for lack of efficient inspection, and lack there will surely be if the present bill goes through.

THE SMALLPOX SITUATION.

LAST year about this time there was considerable discussion in medical circles because of the number of cases of smallpox in the United States. It was said that to avoid a serious epidemic great care and watchfulness would be needed. At the present time we have more than three times as much smallpox in this country than we had at the same time last year.

During the four weeks from December 29, 1899, to January 26, 1900, 1,064 cases of smallpox were reported to the Surgeon-General of the United States Marine Hospital Service. During the four weeks from December 28, 1900, to January 25, 1901, 3,212 cases have been reported.

The increase of the disease affects nearly every State in the Union. Only Louisiana and Tennessee have a notably smaller number of cases of the disease than last year. Many States and Territories are suffering from serious epidemics of smallpox. In Nebraska, 464 cases are reported as compared with 6 cases during the corresponding period of last year. In Oklahoma there are 401 cases reported where there were but 55 last year. Minnesota reports 362 cases; Kansas, 280; Ohio, 225; Virginia, 206; Utah, 192; Texas, 125. New York State reports 60 cases, while during the corresponding period of last year there were but 2 cases.

The reasons for this increase of smallpox are not difficult to find. Freedom from serious epidemics of the disease for nearly 20 years has begotten a false sense of security as to the danger it involves. Gradually, the persuasion has gained ground that, under the improved sanitary conditions of our modern life, smallpox is no longer the dangerous contagious disease that it used to be. The necessity for vaccination has been denied by many. Revaccination has been very generally neglected. As Professor Osler has said in a recent review of the Medicine of the Nineteenth Century, "The difficulty (the unfailing recurrence of smallpox in this country) is due to the constant presence of an unvaccinated remnant by which the disease is kept alive. Besides this, too, the protective power of the inoculated cowpox is not a fixed and constant quantity. The protection may be for life or it may last only for a year or two."

The neglect of revaccination is the cause of the present situation. From all over the country come reports that the cases of smallpox occurring at the present time are many of them atypical. They are milder and begin insidiously without certain of the characteristic symptoms of genuine smallpox It is only from a series of cases and from fully-developed cases that the diagnosis of the disease becomes assured. These anomalous types of smallpox are due to the incomplete protective power of old vaccinations. A sufficient degree of immunity remains to modify the virulence of the smallpox, but not to prevent its occurrence. Smallpox is eminently a disease of the winter. This year our wintry weather has been very much delayed. That we shall have considerable cold weather, some of it for continuous periods of good length, seems certain and it is at such times that smallpox spreads with special epidemic virulence. Last year during the six months from January to July, 1900, there were over 14,000 cases of smallpox in this country. Thus far there have been three times as many cases as during the corresponding period of last year. If this same proportion should continue there will be over 40,000 cases in the first six months of 1901. It is not probable that the ratio of increase of the disease will thus continue, for already the people of the country have been aroused to some sense of the danger. Vaccination and revaccination have been taken up with a proper confidence as to their protective influence. There are still parts of the country, however, where neglect of these precious precautions is still the rule. In such places it is the plain duty of the medical profession to call the attention of communities to the dangers that threaten them and to which they are exposing others. For when smallpox becomes epidemic it takes on renewed virulence that enables it to attack even those who were before proof against its attacks.

As Professor Osler says, "Efficiently vaccinated persons may be exposed with impunity to smallpox. To be efficient, vaccination must be carried

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out systematically and, if all the inhabitants of this country were revaccinated at intervals, smallpox would disappear as it has from the German army, and the necessity for vaccination would cease." Professor Osler is not as those who talk knowing not. His experience with smallpox in Montreal gives his words all the authority of an expert on the subject. Those who from the depths of their ignorance and prejudice are discouraging the practice of vaccination are almost criminal in the possible harm they may do and under present circumstances are actually accomplishing. Nothing but an almost universal recurrence to vaccination and revaccination will save this country from a serious and extremely costly epidemic of smallpox during the coming cold weather.

Let the medical profession at least do its duty by timely advice in the matter. There is nothing at the present moment that is more worthy of strenuous effort and careful attention.

ECHOES AND NEWS.

NEW YORK.

Harlem Hospital Appointments.—Dr. John J. McGrath has been appointed to the position of attending surgeon to the Harlem Hospital.

In Honor of Dr. Green.—The New York Academy of Medicine last week honored the memory of Dr. Horace Green, the celebrated specialist on laryngology. A life-size marble bust, which was made in Italy, was unveiled at the Academy last Thursday week. The bust is a gift to the Academy of Medicine from Dr. Green's widow and his son, George Walton Green.

German Hospital.—The thirty-first annual report of the Board of Trustees of the German Hospital and Dispensary of this city, which has just been made public, describes in detail the work that has been done during the year 1900 toward the erection of an annex to the hospital, at Seventy-seventh Street and Park Avenue. This annex is now in course of construction. It will accommodate seventy patients, and, according to the estimates given in the report, will cost $180,000. It is expected that the building will be completed next June.

New York Academy of Medicine.—At the Tuesday, February 19th, meeting of the Section on Medicine, there will be a Symposium on Pleurisy. The following papers will be read: "Cytodiagnosis; Its Applicability to Pleurisy," J. J. Walsh, M.D.; "The Bacteriology of Acute and Chronic Pleurisy," by Alexander Lambert, M.D.; "The Treatment of Pleurisy with a Consideration of Early and Late Tapping," by C. E. Nammack, M.D.; "The Use of Methylene Blue Injections in Pleurisy with Effusion," by C. H. Lewis, M.D.; "The Routine Treatment of Pleurisy at Mt. Sinai Hospital," by Julius A. Becker, M.D. General Discussion of the papers by Drs. I. Adler, M. Manges, H. Lilienthal, S. S. Burt, and others.

Thursday, February 21st, Dr. A. J. Lartigau will read a paper "On the Rôle of the Colon Bacillus in Human Affections," to be discussed by Drs. Biggs, Parks, and others.

East Hampton's Typhoid.—The typhoid outbreak at East Hampton, L. I., last summer has been investigated for the State Board of Health by Professor Landreth of Union College. He finds that the cause was the proximity of Camp Wikoff. The first results in the village of the intercourse, he says, were numerous cases of tropical dysentery during the fall of 1898. Later in the year there were a few typhoid cases, and in 1900 several other cases occurred within 600 feet of the site of one of the hospitals where several soldiers were sick with typhoid during the summer of 1898. The report says there is little doubt that typhoid became established at East Hampton by soil implantation, and that it was disseminated either through the agency of percolation or through the air. Professor Landreth says that unless vigorous sanitary measures are taken there is a prospect of the disease developing into an epidemic from the existing centers during the coming season.

New Hospital for Red Cross.—The New York Red Cross will erect a hospital and training school on a plot of four lots in Central Park West, 24 feet south of One Hundredth Street, which has just been bought by the Society for $100,000. The plans, drawn by Woodruff Leeming, provide for a key-shaped building, with the longer elevation fronting the Park, and estimated to cost $60,000. The hospital is to be six stories in height and to contain 100 beds, including one reserved for each nation represented in the Red Cross. The training school for nurses is to be four stories high. The building will be of steel construction, fire-proof, and will have electric elevators and every modern hospital appliance. The New York Red Cross, whose home now is at 259 West Ninety-third Street, was organized in 1894. Its officers are: William T. Wardwell, President and Treasurer; Mrs. George F. Shrady, Vice-President; Thos. A. McNicholl, Secretary; Mrs. Bettina A. Hopker-Lesser, Sister-in-Chief; Dr. A. Monae Lesser, Executive Surgeon, and Francis Barker, President of the Managing Sisters.

Bell Bill Amendment.—The amendments of the Bell Bill have been agreed upon at a meeting of the Legislative Committees of the New York State Medical Society, the New York State Medical Association, the New York County Medical Association, with Assemblyman Bell. The Bell Bill made it a misdemeanor for any person to recommend or advise any person to take any medicine or undergo any kind of regimen or treatment whatsoever; the Bill was designed to reach

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the Christian Scientists, but the New York State Medical Association opposed it on the ground that "in its original form it would have made the citizen liable under the law for recommending any mineral water or prescribing a hot-water bath or any simple remedy." Dr. Harris said that the great objection lay with the definition of what constitutes a practitioner of medicine. The amendment now reads: "The construction of this article is that any person shall be regarded as practising medicine within the meaning of this act who shall give treatment to any other person by the use of any remedy, agent, or method whatsoever, whether with or without the use of any medicine or instruments, or other appliances for the relief or cure of any wound or fracture, bodily injury or infirmity, physical or mental disease."

Report of Lunacy Commission.—In its annual report, just submitted to the Legislature, the State Commissioner in Lunacy says there were admitted to the State hospitals last year 4,795 new cases of insanity, a marked increase as compared with 4,201 the preceding year. The net increase, however, at the close of the year was but 714. There were 1,029 patients discharged recovered during the year and 900 discharged sufficiently improved to enable them to return to their homes and to engage in regular employment. A gross reduction of $297,171 was made in the cost of maintenance of the 22,000 insane supported during the year, the *per capita* rate having fallen from $3.43 to $3.18 per week. The amount spent for new buildings and extraordinary improvements last year was $662,948, as against $1,126,043 for the preceding year. There was collected during the year from paying patients $210,851. There was expended for salaries and wages of employees in the State hospitals $1,442,001. The total value of real estate of State hospital buildings is $21,600,000, while the personal property is valued at $1,670,000. The balance of the million-dollar appropriation for new buildings and extraordinary improvements, granted by the Legislature in 1900, will be required to finish the new colony at Central Islip, including accessory buildings.

PHILADELPHIA.

The Protection of Water Supplies.—The Association of Health Authorities and Sanitarians of Pennsylvania at their annual meeting asked of the Legislature the passage of a bill embodying the following points: (1) Providing that constables shall be health wardens and receive $10 for each conviction of pollution of streams; (2) making it compulsory for school boards to organize local boards of health; (3) appropriating $15,000 to the State Board of Health for the supervision of water supplies and the protection of public streams against pollution.

Board of Health and Anti-Vaccination Bill.—The Board of Health met in special session February 11th to protest against the passage of the Anti-Vaccination Bill now before the Legislature. Many prominent physicians were present to declare their opposition to the repeal of the present law. The following action was taken: "*Resolved*, That the Board of Health of Philadelphia earnestly protests against the repeal of Section 12 of the act adopted by the Legislature of Pennsylvania, June 18, 1895, which requires that the fact of successful vaccination or a previous attack of smallpox, as the case may be, must be duly certified before a child is admitted to any school in the State."

Camps for Consumptives.—Dr. J. T. Rothrock, State Forestry Commissioner, has outlined plans and secured subscriptions for the establishment of camps for consumptives on State reservations. The first camp will probably be opened in Clinton County, which has an elevation of 2,000 feet above the sea-level. Large A-tents will be erected with permanent foundations. The tents will have heavy wooden floors, and a covered platform, on which the occupants may take exercise during rainy weather, will extend in front of each row of tents. Patients will be furnished with shelter free of charge, but will have to make their own cooking arrangements. The intended ultimate result of these plans, which will soon be presented to the county medical societies of the State, is the establishment of consumptive camps on every healthy forest reservation in the Commonwealth.

College of Physicians.—The meeting of February 6th was opened by Dr. J. Chalmers Da Costa with an eloquent address in memorial of the late Sir James Paget, who was an honorary member of the College. Drs. J. F. Schamberg and J. F. Wallis exhibited wax models illustrating various cutaneous diseases. Dr. B. Alexander Randall read notes on fifty cases of otitic extradural abscess. Dr. John B. Roberts exhibited a cast and skiagraphs of Smith's fracture of the radius and Bennett's fracture of the metacarpal bone of the thumb. These specimens were from Dublin and will be deposited in the Mütter Museum. Dr. H. R. Wharton reported for himself and Dr. J. H. Musser the history of a case of perforating ulcer of the stomach, with recovery following operation six hours after perforation. The perforation was closed by infolding it, the abdominal cavity irrigated with six gallons of hot salt solution, and two glass drainage-tubes inserted, one reaching to the pelvis. Dr. Wharton believes irrigation and drainage of the pelvis to be two important points in the treatment. If the pelvis cannot be reached by a tube a counter-opening should be made.

Organotherapy in Gynecology.—A spirited discussion of this subject, based on a paper read by Dr. Wilmer Krusen, was held recently at the Obstetrical Society. The paper referred to uterine, mammary, parotid, thyroid, and ovarian extracts. Thyroid has been most thoroughly tried by various observers and is the most efficient. For the past three years Dr. Krusen has been prescribing ovarian extract in three classes of cases, *viz.*, (1) amenorrhea and dysmenorrhea; (2) symptoms fol-

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lowing the removal of the uterine appendages; (3) disturbances accompanying the natural menopause. No favorable influence has been noticed in the first class of cases. The best results are obtained in the second class, the congestive and nervous symptoms being distinctly ameliorated in some cases. He concludes that no definite and exact reliance can be placed on the remedy, its use being disappointing in many cases, though an occasional good result incites to its renewed use. Dr. H. A. Hare discussed organotherapy from a theoretical point of view. He believes that to form definite conclusions regarding the value of mammary-gland extract there must be a knowledge of the physiological or sexual condition of the animal from which it was obtained. Many of the present contradictory reports of its efficacy may be due to a lack of such knowledge. Again, the physiology of minute metabolism is not known. This may be different in different individuals and similar conditions or symptoms may arise from different causes in each. For this reason, also, the use of organic extracts will give conflicting results. A third point is the fact that the reporting of such gratifying results by some observers rather militates against a favorable impression of these remedies. This statement is made because of the well-known fact that from time to time enthusiasts report remarkable results from the use of certain drugs which the profession at large find of no particular value whatever in the class of cases specified. The use of parotid-gland extract in ovarian disease is not known to have a rational basis. The involvement of the ovaries in some cases of mumps may mean, not a physiologic connection, but a bacteriologic similarity between the organs at fault. The connection between the ovaries and the mammary glands is possibly only a reflex one. For these reasons organotherapy cannot be employed in a rational way until symptoms can be separated and their cause more definitely located in individual cases. Dr. W. W. Russell of Johns Hopkins University stated that organotherapy had proven practically valueless in his experience. The local use of suprarenal extract gave gratifying results in a case of hemorrhage from the kidney which had for nine months been treated unsuccessfully. Through a renal catheter, one-half ounce of a 10-per-cent. solution was injected into the kidney. This was done three months ago and there has been no hemorrhage since. Dr. E. E. Montgomery finds thyroid extract of service in women who have rather rapidly become obese, a diminution in flesh often being followed by a recurrence of pregnancy. This remedy has a certain value in the irregular bleeding of women who are near the climacteric. It also exerts a favorable influence on malignant disease by modifying the pain. Dr. J. G. Clark has for three or four months systematically used extract of parotid gland in cases of dysmenorrhea, with thus far not the slightest result. Dr. John C. Da Costa obtains rather uniformly-favorable results from the use of thyroid extract in patients with uterine fibroids who refuse operative treatment. When this substance is given in combination with nux vomica the fibroids often decrease in size, temporarily at least, and in some instances hemorrhage ceases.

CHICAGO

Gifts to Wesley Hospital.—Dr. R. D. Sheppard of Northwestern University has received donations to Wesley Hospital, one of $5,000 and one of $1,000. The names of the donors will be announced when the dedicatory exercises of the additions to the old hospital are held in May.

Decline of Smallpox.—The situation at present in regard to smallpox is reassuring, inasmuch as no new case has been detected during the first four days of this week. The record of no case among the recently-vaccinated is still unbroken, and this lesson is causing a resort to vaccination which is the best assurance against any serious epidemic spread of the malady.

Electrocution for Criminals in Illinois.—A bill to make electrocution the legal method of execution in Illinois was introduced into the Legislature recently by Representative D. E. Sullivan of Chicago. If the bill becomes a law, the death penalty will be administered in the Joliet Penitentiary and the warden or such assistant as he may designate to officiate will receive $50 for ending each human life. The method of death is thus specified: "When a defendant is sentenced to the punishment of death, the mode of executing the sentence must in every case be by causing to pass through the body of the convict a current of electricity of sufficient intensity to cause death, and the application of such current must be continued until such convict is dead." Should the bill become a law it will apply only to murderers whose crimes are committed after its passage. It is believed that this method of executing criminals in Illinois will not meet with favor among intelligent students of criminology. If the State is to continue to inflict the death penalty for the commission of certain crimes, it should adhere to the rope and the scaffold as the most effective and impressive reminder of the terrible retribution that follows the taking of human life. Hanging as a death penalty was instituted for the purpose of impressing the public mind with the horror and disgrace of crime. Nothing could be more revolting or shocking to public sensibility than the hanging of a man by the neck with a rope until he is dead. It has a traditional terror for criminals. It invests crime with an awful aspect, and the more odious and dreadful it can be made the better for human society.

GENERAL.

Smallpox at Glasgow.—Up to the first of February there were 385 cases of smallpox in this city. This number is increasing daily. Last week, February 6th, 453 cases had been reported.

Death of Professor Von Pettenkofer.—Professor Von Pettenkofer, the well-known hygienist, who was eighty-three years old, has committed

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suicide by shooting himself with a revolver. He suffered from melancholia.

Plague at Cape Town.—Nine new cases of the bubonic plague are reported here and in the suburbs. A child has died of the disease. The Government and the local authorities are taking strong measures to confine and suppress the outbreak.

Plague and Smallpox at Manila.—Three cases of plague and seven cases of smallpox were discovered in Manila last week. The appearance of these diseases causes no alarm to the Health Board, which is prepared to control their annual visitation, which is expected during the hot season.

Christian Science in Indiana.—Senator Wood introduced a bill in the State Legislature February 6th making it a felony punishable by imprisonment in the penitentiary where Christian Scientists treat cases of illness and death results. The purpose of the bill is entirely to exclude the practice of Christian Science from Indiana.

Medical Society of the Missouri Valley.—The semi-annual meeting of this Society will be held in the City of Omaha, on Thursday, March 21st. Those desiring to contribute to the programme of the spring meeting will please notify the Secretary of their intention at once, as papers will be assigned to a position in the order received.

Plague in Siberia.—The *Daily Mail* publishes the following from its St. Petersburg correspondent: "Serious reports are in circulation here regarding the outbreak of what was first called 'hunger typhus,' but is now officially admitted to be bubonic plague in the Khirghiz Steppes of Western Siberia. Many thousands have died in the districts between Semipalatinsk and Orenburg. The Government is sending large quantities of wheat to be distributed to the starving population, and is organizing traveling medical services to localize the outbreak."

Death of Dr. Hiram Christopher.—At the meeting of the St. Joseph (Mo.) Medical Society, January 22d, the following resolution was adopted: *Whereas*, it has pleased God, in His infinite wisdom, to call from our midst Dr. Hiram Christopher; therefore be it *Resolved*, That we express our heart-felt sympathy and sorrow at the loss of a most honored member of this Society, and of a most lovable confrére in the profession. *Resolved*, That we mourn, with the community, the demise of a fellow citizen of high literary attainments, deep moral sense, and public spirited disposition, and, be it further *Resolved*, That as a mark of respect to the memory of the deceased, this Society adjourn. M. F. Weymann, Jacob Geiger, Chas. Wood Fassett, Committee.

Prize Essay on the Dangers from Quackery.—The Colorado State Medical Society offers a prize of twenty-five dollars for the best essay, if deemed worthy of the prize, pointing out the dangers to public health and morals, especially to young persons, from quackery as promulgated by public advertisements. The competition is open to all. Essays must be typewritten in the English language, and submitted before May 15, 1901. Each essay must be designated by a motto; and accompanied by a sealed envelope, bearing the same motto, and enclosing the name and address of the author. The essay receiving the prize will become the property of the Society for publication. Others will be returned on application. Essays should be sent to the Literature Committee, Room 315, McPhee Building, Denver, Colorado.

Christian Scientists in Massachusetts.—Christian Scientists have succeeded in safely running the gauntlet of a good deal of legislation at the State House in years past, but this year a bill has been introduced which is aimed at them directly, as well as at clairvoyants, persons practicing magnetic healing and mind cures. The bill aims to have inserted in the present medical law (chapter 458 of 1894) a new section providing that "whoever, not being registered, shall advertise or hold himself out to the public as a healer of disease, or able to abolish disease or the symptoms of disease, or as competent to do surgery, or shall in any way treat or prescribe for the sick or injured for gain, shall be punished by a fine of not less than $100 or more than $500 for each offense, or by imprisonment in jail for three months, or both."

History of Plague on the Steamship "Friary" at Hull.—The history of the last voyage of this vessel, as given in the Marine Hospital Reports, that she cleared from Cardiff November 17th for Alexandria, Egypt, where she took on a cargo of cotton seed. She left that port December 22d, touching at Algiers December 30th, and reached Hull January 10th. January 8th a Greek sailor became ill and died just before the vessel reached port. The port sanitary officers visited the vessel and, after a careful examination of the body and from the history of the case, decided that he had died from "natural causes" and allowed the vessel to proceed to dock. It was thought at the time that the man had died from influenza. Saturday, January 12th, two sailors were ill and applied to the port sanitary officers for treatment, and they were also treated for influenza. One man died on the 13th and the second one the next day, and suspicions were aroused that the disease was not influenza. Two more sailors becoming ill were sent to the hospital and died, and Wednesday, January 16th, the vessel was taken away from dock and anchored in the stream, and all the crew confined on board or sent to hospital. Besides the two men who died in hospital, three others were ill and sent there, but they are convalescent without a positive diagnosis. So far as known, all cases of plague have died. A postmortem was held on the first death in hospital and the

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diagnosis of plague confirmed. In one instance, the plague bacillus was found in the lung in almost pure culture. It would seem safe to suppose, therefore, that the five deaths from among this crew were all from plague. The symptoms in all cases were indefinite, and suggested influenza. There was fever, and general aches and pains, some cough, but very little expectoration, and not the usual pneumonic symptoms. In no instance was there any glandular enlargement. The danger from this vessel lies in the fact that she came to dock and was there for several days, and was visited by numerous people, while three of the men died on board of her. One of the physicians who had attended these cases has been ill, but a diagnosis has not been made. As regards the source of infection on board this vessel, the most probable source would seem to be Alexandria, although this port at the time of sailing of the "Friary" was supposed to be free from plague, and clean bills of health were being issued. However, the period that elapsed from the time of leaving Alexandria, December 22d, to the time of sickness of the Greek sailor, January 8th, is longer than the usual incubation period of plague. Inquiries made concerning rats showed that two dead rats had been found on board, and a cat that came on board in Alexandria became ill, but unfortunately was thrown overboard in the Humber, so no bacteriological examination was possible.

Obituary.—Dr. William H. Edsall died in Highland Falls, N. Y., last week, aged forty-nine years. He leaves a widow and daughter. He was an active member of the Knights of Honor, Knights of Pythias, Foresters and Odd Fellows. He was a prominent Democrat and has served as health officer for a number of years.

Dr. Benjamin Franklin, a native New Yorker, who for a quarter of a century practised medicine in Newark, died last week at his home, 121 Fifth Avenue. Grip caused his death. Dr. Franklin was a veteran of the Civil War, and was a prisoner for seven months at Andersonville. He also served with the Cuban patriot army in the ten-year war in Cuba. Dr. Franklin was fifty-four years of age and a graduate of the University of New York. A widow and four daughters survive him.

Dr. Samuel Clagett Busey, one of the oldest and best known physicians of Washington, died in that city, Tuesday, Feb. 11th. He was born in Montgomery County, Maryland, in 1829. He was professor of materia medica at Georgetown University for many years and was the author of 163 contributions to medical literature. He also contributed to the historical works on the District of Columbia.

Dr. Peter M. Barclay, one of the eminent physicians of the Hudson River Valley, died last week at Newburgh. He was sixty-eight years old. A widow and married daughter survive him.

Dr. Frank Bond died at his residence, 27 Schermerhorn Street, Brooklyn, last Sunday. Dr. Bond was born in Erie County, Penn., in 1827. He was left an orphan while he was a mere child. When he was thirteen years old he became a farm laborer and received very little schooling until after he was twenty. He prepared himself for a university course, and finally entered Williams College in 1850. After being graduated from Williams College in 1854 he went to Iowa with the intention of teaching school. About this time his attention was drawn to medicine, and he began a medical course of study under Dr. Sanders of Iowa City. In the winter of 1855-6 he attended lectures in this city. While attending the medical lectures Mr. Bond married. After graduation he settled in Brooklyn, where he since resided. Dr. Bond is survived by his widow, one son, and a daughter.

Dr. M. G. Cunningham, a prominent physician of Binghamton, N. Y., died there Monday, February 11th. He was forty-eight years of age.

CORRESPONDENCE

THE DUTY OF THE PHYSICIAN AND LEGISLATURE.

To the Editor of the MEDICAL NEWS:

DEAR SIR: We have had a bill introduced in the Legislature of this State which is of vital importance to the medical profession, medical colleges and medical institutions, and to the public generally. This bill, if enacted into law, will compel every person who treats disease, regardless of the method they employ, to comply with the medical laws.

The necessity for the enactment of this bill seems very plain. Under an old decision of the Supreme Court of this State, in the case of Smith vs. Lane, it was held that unless one gave medicine he did not practise medicine. The result of this decision has been that people who have desired to evade the law have adopted some cunningly-devised name, as "osteopath," "hydropath," etc., and by refusing to give medicine have set themselves up as being competent to treat disease, and the authorities are not able to successfully prosecute them.

The present medical laws, as they are now enforced, are incentives to ignorant and unscrupulous people to adopt some peculiar name or title and so avoid the necessity of the careful preparation the law says a person should have before being allowed to practise medicine. The law only places obstacles in the path of those who desire to perfect themselves so as to be able to practise intelligently.

About three years ago the osteopaths had a bill introduced in the Legislature which sought to legalize their practice, but the measure failed.

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They have this year attempted the same thing and their bill, which has been introduced, is stronger and has greater backing than before. It will seek to give to people who have not perfected themselves as physicians are perfected, the right to treat any and all disease by the method known as "osteopathy." If they gain this privilege it cannot be expected that other practitioners will be content to comply with the requirements of medical colleges, when they can obtain the same standing in the community by studying at some "osteopathic college." This latter course may not give them the same standing professionally, but it will enable them to rank as well, with the community, as the person who has received a thorough medical education.

Another bill has been introduced compelling the Regents to endorse the diploma of any physician who has passed the State Board of Medical Examiners of any other State. If this applied only to States where the requirements were similar, although inferior to our own, it would be bad enough; but it goes farther and applies to all States. Should this bill become a law students can then go to some State where the requirements are almost nothing, and, having received the right to practise there, can come to New York and be allowed to practise here. This will be an unfair discrimination against the medical colleges of this State, will make a farce of our medical laws, and certainly will not be of advantage to the community.

It seems to the writer that these are matters which should interest every person, physician or otherwise, who believes in upholding the present high standard of medical requirements in the State of New York, and who has the interest of the community at heart. We trust that they may interest you, and that you will use every honorable means at your command, first, to assist in the enactment of the bill known as the Bell Bill, compelling every person who treats disease, whether with or without drugs and medicines, to comply with the medical laws; second, to assist in the defeat of the Seymour Bill which would give a legal standing to a class of incompetent practitioners known as "osteopaths"; and, third, to assist in the defeat of the Adler Bill which seeks to let down the bars so that medical men of possibly inferior education and ability may be allowed to overrun the State of New York.

The writer is engaged in what he hopes will be considered a commendable effort to retain for the medical profession of the State of New York the proud position it holds in the eyes of the world to-day, and to insist that the Legislature will continue to protect the community from incompetent medical practitioners by compelling compliance with the medical laws as a prerequisite to practice.

FRANK VAN FLEET,
Chairman of the Committee on Legislation of the Medical Society of the State of New York.

New York, February 9, 1901.

OUR LONDON LETTER.

[From Our Special Correspondent.]

LONDON, February 2, 1901.

PLAGUE AT HULL—THE PNEUMONIC FORM MISTAKEN IN THE FIRST INSTANCE FOR INFLUENZA—FOUR DEATHS ON ONE STEAMER—CREMATION OF THE BODIES—THE CASUALTIES OF DEATHS FROM DISEASE IN THE SOUTH AFRICAN FIELD FORCE—THE FAILURE OF PHYSICAL EXAMINATION IN THE DIAGNOSIS OF PHTHISIS.

PLAGUE has made another attempt to invade Great Britain. A steamer which arrived at Hull on the 10th ult. from Alexandria on its way called at Algiers. The usual inspection of the vessel was made by the port medical officer of health and the body of a seaman who died shortly before the arrival of the vessel was removed to the mortuary. There was no sickness on board the vessel at the time of arrival, but on the 12th two of the crew became ill. The cases were diagnosed by the port medical officer and by another practitioner as influenza with lung complications. Two other members of the crew sickened on the 15th. All four have died. A bacteriological examination of the viscera of two of the patients was made by Dr. Klein and the result shows that the malady was plague. All the necessary precautions are now being taken in Hull and a medical inspector of the Local Government Board is inquiring into the matter. Altogether five deaths took place, one on the voyage, two in the docks, and two in hospital. Two of the bodies have been cremated and permission to cremate the other two is awaited. It is thought that the danger to the public is passed. The plague was of the pneumonic form.

Official tables have been issued showing the casualties and deaths from disease in the Army in South Africa. In February, 1900, the total British forces amounted to 194,000; in December to 210,000. Thus, roughly speaking, about 200,000 men were employed during the year. The total number of deaths from disease in 1900 was 7,501 which gives a rate of about 37.5 per 1,000. Those killed in battle and those who died of wounds in South Africa, 200 deaths from accident apart from battle, and 92 deaths of prisoners in captivity, when added together give a total of casualties for the year of 4,318 or a casualty death-rate of 21.6 per 1,000. If allowance is made for the invalids who died on the way home or after reaching England (whose deaths are excluded from the above list), it is probable that the death-rate from disease has been about double that from wounds. As to invaliding, 39,986 non-commissioned officers and men and 1,638 officers have been sent home as invalids, or 185 per annum per 1,000. Of the invalids sent home 5,662 were wounded, 30,243 were sick and concerning 1,081 the cause of invaliding is not specified. Of the invalids 243 have died, 1,570 have been discharged from the service as unfit, and 654 are in hospital. Comparing these returns with those of the Army in time of peace; the total death-rate of the field force during 1900

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was 59 per 1,000; of the troops at home and abroad, 10.8. The four principal causes responsible for the high death-rate from disease were typhoid fever, dysentery, respiratory diseases and rheumatic fever, probably in this order of importance. Probably an annual death-rate of 10 per 1,000 was caused by typhoid fever alone. In the United Kingdom the death-rate from typhoid fever of the troops is about that of males of the same age in the civil population—0.26 per 1,000; in India from 1886 to 1895 the death-rate of the troops was 5.16; and in South Africa in time of peace, 1892 to 1896, 1.76.

In his recent Harveian Lectures on Consumption, Dr. Maguire, Physician to St. Mary's Hospital and to the Brompton Hospital for Diseases of the Chest, and one of the recognized authorities on chest disease, related the following case which has given rise to some comment on the fallibility of physical examination of the chest: A man came to the Brompton Hospital one day with unquestionable tuberculous ulceration of the larynx. He had also a cough and all the appearances and symptoms of advanced phthisis. But the most careful examination by Dr. Maguire and several medical men who were attending the clinic failed to find any but the most ambiguous physical signs in the chest. The case might have been looked upon as one of primary laryngeal tuberculosis, but Dr. Maguire was sure that it was not. On two other occasions at intervals of a fortnight the chest was further examined with the same result. But on his fourth attendance signs of cavities were found in almost every part of the thorax. The cavities could not have formed in a fortnight. Undoubtedly they were present at the first examination, but from blocking by mucus or from some other condition escaped detection. The moral of this case is twofold: First, negative results in the physical examination of the chest should not prevent a diagnosis of phthisis being made; secondly, a practitioner should not readily condemn one who has previously examined a chest and failed to find anything, although after a brief interval advanced signs of excavation are present.

TRANSACTIONS OF THE FOREIGN SOCIETIES.

French.

FOREIGN BODIES IN THE ABDOMINAL CAVITY—INTESTINAL FISTULAE—HEMOSTASIS IN THE LIVER—OVARIAN HEMORRHAGE—PYLORIC STENOSIS—TYPHOID PERFORATIONS—THE BLOOD IN CANCEROUS PATIENTS—LYMPHADENOMA AND LEUCEMIA—EARLY CEREBRAL SYPHILIS—FISTULAE AND TUBERCULOSIS—TUBERCULOSIS AND THE HEART.

CHAPUT, at the Société de Chirurgie de Paris, December 12, 1900, related the facts of a case in in which a gauze-compress was retained in the abdominal cavity for about seven years. In 1898 he was called to treat a woman for persistent median pyostercoral fistula secondary to several laparotomies. The patient had undergone operation for two extra-uterine gestations. Hemorrhage after the second had made tamponade necessary. This was in June, 1891. An eventration occurred at the scar which made another interference necessary on account of symptoms of intestinal obstruction. It was after freeing an adherent cyst by exposing the sigmoid colon that the fistula was present. On the first of June, 1898, the operation to close this sinus was done in the midline, which revealed the tract leading down to what appeared to be a new growth of the intestine, with the peculiarity of seeming to contain soft pasty matter within a thin wall. Consequently the diagnosis of a foreign body within the gut was suggested. When the intestine was opened and the adjoining mass also, the contents were found to be a large piece of ordinary surgical gauze about fifty-two centimeters on each side. The intestinal wound was sutured, the fistula excised, the abdominal cavity drained, and the parieties closed. Recovery followed. Pilate published in 1892 a case similar to the foregoing in which the gauze was passed by the rectum. This same thing might have happened in Chaput's case, but not without causing obstruction, as the compress was so large. It might also have found its way back into the peritoneal cavity; but it could scarcely have migrated out of the fistula, because the orifice was minute. Michaux in 1892 also reported the ulceration of a piece of gauze into the intestine, which there caused such changes that the gut had to be resected. Finally Jalaguier and Mauclaire have shown that the migration of gauze in the peritoneal cavity of certain animals is possible.

PEYROT published for Pauchet (Amiens) two procedures for the successful treatment of intestinal fistulæ. In the first patient the sinus entered a firmly adherent loop of the small intestine which could not be freed. The sinus was sewn into the neighboring intestine, so as to form an anastomosis. The cure was rapid. Similarly in another patient a fistula entered the large intestine between two loops of densely adherent small gut, all too much glued together to permit of separation. The fistula was simply buried in an anastomosis between the two loops of small intestine and thus well cured.

DELBET said in the discussion that the first case could have been more easily cured by stitching the fistula against the neighboring loop. Thus adhesions would close it, without the dangers and trouble of an actual anastomosis. Tuffier said that minor measures rarely cure these fistulæ. Hence he always tears down widely the adhesions so as to expose freely the sinus for whatever treatment it may then need. Michaux said that after thus exposing the tract simple suture is the usual treatment.

WALTHER communicated the results of his experiments with the method of Chaput-Prevost (Rio-de-Janeiro) for checking hemorrhage from the cut surface of the liver, employed by him in separating the xiphopagus monster recently reported to the Académie de Médecine. The pro-

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cedure consists of a large loop of silk, taking in all the abdominal wall, another linked to that and embracing the liver substance, and a third through the opposite lip of the abdominal wound. Thus a chain suture and ligature combined are formed, which will stay in position and be efficacious in its hemostasis. Before attempting the separation of the monster he established the efficacy of this technic with animals. Walther adds that a compress of gauze held *in situ* by the middle loop upon the liver substance is an additional means of stopping the oozing.

TUFFIER briefly reported for Le Toux (Vannes) a case of violent intra-abdominal hemorrhage from the ovary. The case was under his care within twenty-four hours and at the laparotomy he found the right ovary badly lacerated. He therefore ablated it with the tube of that side. Examination showed that the bleeding was due to the laceration of a follicular cyst, rather than of an ectopic ovarian pregnancy, as the latter are very rare if, indeed, they occur at all. Delbet said that these intraperitoneal hemorrhages do not by any means indicate ectopic gestation. He had seen one due to the rupture of a hematoma in the broad ligament originating in one of the veins of that structure.

ROUTIER, at the meeting of December 19th, contributed notes on two cases of pyloric obstruction, submitted by Lafourcade (Bayonne). The first patient was a female, forty-three years old, long afflicted with the symptoms of the stenosis. Exploration revealed an epithelioma of the pylorus. Being unable to bring the cut ends of the stomach and duodenum together during the pylorectomy, he sewed each up and did a gastro-enterostomy supplemented by an entero-enterostomy. Recovery from the operation was complete and to-day, about three months thereafter, her general condition is very good. The other observation concerned a younger woman, apparently afflicted with a contraction due to an old ulcer. The operation here was simply anastomosis so that the gastric functions could go on. It has succeeded admirably, a large increase in the weight having occurred. Routier felt that the operator would have been safer had he done a pylorectomy here also, because no one can tell how such a constriction will develop.

GUINARD, in discussing, said that during the last year he had a veritable surgical calamity in connection with gastric surgery. For three years his patient had suffered from gastric symptoms and, finally, submitted to operation. In the deep field there presented what appeared to be the stomach, with its pylorus much retracted. Therefore it was determined to do a pyloroplasty. Death supervened in two days. At the autopsy what appeared during the operation as the stomach proper was a large subcardiac dilatation and this led though a canal, eighteen centimeters long, to a prepyloric ectasis which had seemed to be the retracted pylorus itself. If he had contented himself with a gastro-enterostomy, probably the patient would have survived.

POIRIER stated that on the morning of the meeting he had explored for pyloric disease and disclosed a kind of circular constriction apparently due to a localized peripyloritis. It was possible to so divide the adhesions as to restore the normal lumen. The case was mentioned merely to prove the difficulty of clinical diagnosis of such cases.

TUFFIER added that diagnosis is often exceedingly difficult not only before and after, but also during operation. A year ago he operated for what appeared, clinically and in the operative field, as an ulcer, but the patient has since died of cancer. In this case he did a gastro-enterostomy. In another patient of Hayhan with anemia and with gastric symptoms, according to a careful blood examination, he explored and found an extensive growth of the posterior gastric wall. A gastrectomy was done. Recovery has since been complete. Hartmann said that one cannot too minutely repeat various clinical examinations and tests for a differentiation between cancer and ulcer. Clinical considerations, chemistry of the gastric juice and the morphology of the blood are all necessary. The blood is especially important, because in cancer its features are so distinctive. Delbet reported the successful pylorectomy for a suspicious nodule of cancerous substance with adjoining inflammation. He has recently had two deaths. In one patient a round ulcer of the duodenum near the pylorus had caused grave hematemesis, which did not cease after a gastro-enterostomy and finally exhausted the patient. The second man had pyloric stenosis. After a successful posterior gastro-enterostomy signs of the *circulus viciosus* appeared. A secondary entero-enterostomy failed to check them.

LEJARS, at the meeting of December 26th, in behalf of Legueu reported two examples of intestinal perforation in the course of enteric fever. The first was in a ten-year-old boy two hours after the signs of perforation and under unfavorable systemic conditions was soon fatal. The second individual was fifteen years old and survived. The ulcers were simply sutured. With the fifteen successful cases of surgical intervention for this accident, recently collected and reported by Loison, there is a total of sixteen alive. Lejars himself had a fatality a short time ago. A student had unfortunately infected himself in the laboratory and had run an unfavorable course. The symptoms of perforation had been long present and the general condition lamentable before he was summoned and determined to take the only chance and operate. An ulcer which had eaten through the small intestine three centimeters from the cecum was found and sutured, and the general peritonitis was handled by copious, repeated hot flushings. Saline infusion braced the patient materially, and at first it was hoped that success would eventuate, but at evening he died. It is likely that

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earlier operation would have cured. Rochard said he also lost three persons by being summoned too late and induced to operate. On a fourth case for Debove he operated on the diagnosis of perforation, but found none. Cure followed rapidly. Another patient with so-called appendicitis had typhoid lesions, but soon recovered after the operation. Such tend to show that interference is not fatal in enteritis.

WALTHER stated that within a year he was called to see a patient about twenty-four hours after the symptoms of perforation began. The signs were entirely localized and the general prostration very great. Hence he did not operate. In a few days the urine showed the establishment of an intestino-vesical fistula. Spontaneous cure of this occurred in fifteen days and full recovery later. Three times during last year he has also seen patients with typhoid fever closely simulating appendicitis.

ROUTIER has observed clinical differences between perforations during the course and at the end of a typhoid fever. The former are usually deadly; the latter are apt to be less so.

HARTMANN alluded to his statement at the last meeting to the effect that in the cancerous patients the blood shows diagnostic features, especially anemia and certain forms of leucocytosis. He exposed an entirely healthy stomach recently in a woman who gave all the clinical signs of cancer of the stomach, but whose blood lacked these features. She recovered perfectly from the operation, but the issue made him wish he had heeded the condition of the blood and not interfered. Another observation concerned a gastro-enterostomy on a man for what appeared to be certainly an ulcer. The blood, however, indicated that probably a cancer was present, and this was confirmed at the laparotomy. Routier mentioned the fact, in discussing this topic, that he had recently been consulted about a woman with evidently all the typical symptoms of Reichmann's disease. His own examination was hasty, but appeared to confirm this diagnosis. On the operating table a double ovarian cyst was discovered and ablated. Such are the intricacies of diagnosis.

VAQUEZ, at the Société Médicale des Hopitaux de Paris, December 14th, related the features of a recent case of distinct general adenopathy of the cervical, inguinal, mediastinal and other regions, with marked leucocytosis. There were about sixty red cells to one white and the number of polynuclear neutrophile cells was augmented to about 90 per cent. The patient had been under observation for several months and the disease had very slowly increased. Meanwhile a moderate pleurisy with effusion had occurred and the transudate showed a very large quantity of the same polynuclear neutrophile cells, although otherwise clear and healthy. A similar phenomenon was extant in the saliva and urine. The liver and spleen showed no changes. Medication with arsenic and iodine availed nothing. Several injections of leucolytic serum, as prepared by Besredka, were also futile as to any influence upon either the systemic symptoms or the blood-count. The examination of one of the glands removed during life showed a most interesting atypical adenopathy, of the kind described alike by the collaborators, Bezanzon and Griffon, also by Widal and Lesné. The most important and instructive feature was the fact that the gland was filled with polynuclear neutrophile cells, seemingly identical with those circulating in the blood. There seemed to be no other cells whatever in the medulla of the nodes. In fact, the blood never contained any, but the normal elements and the ganglion showed no mycloid degeneration. The presence of an excess of the polynuclear cells in the blood, their appearance in the various body fluids, their infiltration of the lymph-node show that the case was one of common leucocytosis and make it among those of a true infectious polynucleosis and deserving of a place among the symptomatic leucocytosis and as true leucemia.

LAMY related the observation of a case of cerebral syphilis which gave the following premonitory signs. The woman was twenty-six years old and suffered from a migraine accompanied by a weakness of the upper eyelid. Very soon the migraine was transformed into a chronic cephalalgia with nocturnal exacerbations and the ptosis, at first slight and temporary, became distinct and permanent. In addition she began to show lapses of memory and general intellectual depreciation. The signs were regarded as pointing to a lesion of the base of the skull. Permanent and complete cure supervened upon the vigorous administration of antisyphilitic medication, hence the nature and site of the lesion could never be fully demonstrated. For the explanation of the iniatory and temporary symptoms it seems most rational to hypothecate a localized and temporary contraction of the arteries or some equivalent cerebral circulatory phenomenon. The point worthy of memory is that migraine with ptosis may be an early sign of a cerebral syphilitic deposit.

BARIE, at the next meeting, December 21st, in elucidating the relation between ischiorectal fistulas and the early tuberculosis, said that the number of cases in which this affection precedes the pulmonary lesions is really quite rare. In his own researches he has found only five patients in whom the sinus of the rectum beyond all doubt anticipated tubercle of the lungs by a variable extended time. One of these was a woman, which is remarkable because statistics in literature show that among males 5.3 per cent. and among females only 2 per cent. show this phenomenon. In three of his five patients the ischiorectal abscess was of spontaneous origin like the rule, and in two it seemed due to trauma. The intervals after which the lung trouble began were for the first series four, three, and one and a half years and for the second series two and one and a half years.

Health Board Bill Passed.—The Senate last Thursday passed the bill abolishing the present State Board of Health and establishing a single-headed Commission, in accordance with the ideas set forth in Gov. Odell's message.

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SOCIETY PROCEEDINGS

THIRD PAN-AMERICAN MEDICAL CONGRESS.

Held at Havana, Cuba, February 4-7, 1901.

GENERAL SESSION.

FIRST DAY—FEBRUARY 4TH.

THE Congress opened very brilliantly on Monday evening at the Tacon Theater with well-known representatives of Havana social and political life. About four hundred were in attendance, at least one hundred coming from the United States. The address of welcome was given by Governor General Wood. He alluded to the central position of the island of Cuba as affording a convenient meeting-place and welcomed the growing brotherhood that science welds for its votaries. He tendered to the visitors the freedom of the city.

History of the Congress.—This was the subject chosen by the Secretary-General, Dr. Coronado. It had been the intention of the authorities to hold the meeting at Caracas, but the political revolutions of Venezuela made it undesirable to do so and Havana was chosen. The presence of yellow fever almost prevented the holding of the meeting, but after many vexatious delays he was glad to welcome the visitors to Havana.

Medical History of Cuba.—The President of the Congress, Dr. Juan Santos Fernandez of Havana, chose this topic for his address. Cuba, he said, of all the Spanish dependencies was foremost in her study of the medical sciences. As early as 1546 a hospital had been erected in Cuba and, under the influence of the Dominicans, a medical faculty was added to the University which was founded in 1728. Yellow fever had always been uppermost in the minds of Cuban physicians and, late in the Eighteenth Century, Romay published quite exhaustively on the disease. He was evidently a progressive man, for he conducted a medical periodical, the first of its kind in Cuba, published many works on hygiene and was an ardent champion of vaccination, demonstrating on himself and his children the process of vaccination as early as 1804. Romay's work was taken up by Gutierrez, who founded the Havana Academy of Sciences, and was strenuous in his efforts to bring about decent sanitary conditions. At the present time the medical activity is marked; there are no less than a half a dozen periodicals, bearing on medicine and its cognate branches, and the work of others was eagerly sought and corroborated. Pasteur's work on rabies was alluded to as evidence of the wide-awake character of Cuba's pathologists and bacteriologists, for an institute for the treatment of hydrophobia was instituted in 1887, close on the heels of Pasteur's announcements. What Cuba's medical science had been in the past was but a faint glimmer of what its future would be. Freed from the yoke of the oppressor, the speaker prophesied a renaissance for Cuban medicine.

Obstetrics in Cuba.—Dr. E. Hernandez of Havana spoke of the advances made in this branch of medicine, laying particular stress on the part played by prominent Cuban physicians in the development of the specialty. He spoke of some of the causes of rigidity of the uterine cervix and of the value of symphyseotomy, in which branch Cuban medicine had much to be proud of. Special modifications of the Tarnier forceps were noted.

SECOND DAY—FEBRUARY 5TH.

Medicine in Cuba.—This was the opening paper of the evening session, held in the Marti Theater, by the Vice-President, Dr. G. Lopez of Havana. Cuban medicine had been hampered by the climatic conditions on the island. This made it difficult for its medical men to meet and compare notes. The successful gathering of 1890, however, had been of especial value in bringing together those from over the entire island and had given an impetus to scientific work which was making itself felt at home and abroad. Bacteriology had always had special attractions, as the infectious diseases were prevalent. Of late years much interest had been taken in the study of the medicinal plants of the island and they promised to offer an attractive field for pharmacological research.

Yellow-Fever Problems.—The most important problem for the southern countries is this one of yellow fever, said Dr. Eduardo Wilde, Minister to the United States from the Argentine Republic. Sanitation was, in his opinion, the most important factor in the problem and he urged that the Pan-American Medical Congress take upon itself the important mission of attending to this matter as an exclusive problem, if necessary. He did not seem to think that the etiologic factor was definitely known, but said that if concerted efforts were made to stamp out endemic foci, and if the various shipping ports were subjected to active and radical sanitary improvements, much could be accomplished. Money spent, even in large amounts, would give good returns, when viewed from a broad economic standpoint.

Among many other interesting remarks, he described the present high sanitary condition of that city, the great reduction in mortality and in the number of cases of contagious and infectious diseases. For the eradication of yellow fever from America, he proposed the following resolution:

To the Third Pan-American Medical Congress: First, To assemble a Congress of American International Hygiene which shall be composed of delegates from all the American governments which accept the proposed congress, whose mission shall be to establish a basis for a general international treaty, whose object shall be to formulate such laws as are necessary to eradicate yellow fever from its endemic foci or where it has developed by importation, etc.

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Second, To authorize the President of the third Pan-American Congress to address the respective governments of the American countries begging their acceptance of this congress and the appointment of their respective governments.

Tuberculosis and Its Prevention.—Dr. Eduardo Liceágo of Mexico had prepared a paper on this subject. The problem in Mexico was essentially the same as that everywhere else, but the theory of its contagiousness was a difficult doctrine to inculcate in the minds of the native population. For them, it seemed that large organizations, similar to the Red Cross Society, would be helpful in teaching the people of the infectiousness of the sputum, the feces, the urine and other discharges. The missions could also do good work in disseminating knowledge of the means by which early diagnosis, disinfection and isolation could be carried out. Compulsory notification was also advocated by him.

Medical Science: A Retrospect.—Dr. Luis H. Debayle, delegate from Nicaragua and Honduras, gave a brief resumé of Eighteenth Century medicine and then gave a running account of the important landmarks that have stood out in the development of medicine in the past one hundred years. Pinel, Laennec, Trousseau and Bichat were alluded to as pioneers in their respective fields, each pointing the way to more exact interpretations of morbid phenomena. The science of chemistry he believed would point the way to many truths of practical importance and would ultimately be the last resort in the analysis of the more modern methods of serumtherapy. The newer instruments of precision were also discussed by the writer in their relation to more exact diagnosis.

The author spoke with special pride of the work of Ramon y Cajal, as a Spaniard whose investigations, with those of Golgi and Källiker, have revolutionized the knowledge of the anatomy and histology of the nervous system and have made possible the interpretation of morbid nervous conditions hitherto clouded in obscurity. The discovery of Morton, and Lister's application of Pasteur's teachings have been the signal epoch-making discoveries in the surgical field. The modern science of bacteriology is but an infant in arms and the secrets of serum therapy are still unborn, but are destined probably to be among the brightest discoveries of the new century.

THIRD DAY—FEBRUARY 6TH.

The Secretary, Dr. Acosta, rendered his report. Among other items he gave the attendance of this and of the two previous Congresses:

First, 1893, 1,040, Washington.
Second, 1896, 440, Mexico.
Third, 1900, 375, Havana.

The next meeting of the Pan-American Medical Congress will be held in the city Buenos Ayres, Argentine Republic, in 1903.

Drs. Roland G. Curtin and Hudson Makuen of Philadelphia, Committee, drew up and read the following resolutions on the late Prof. Wm. Pepper of Philadelphia.

"It is with unfeigned sorrow that we mourn the untimely death of our honored President, Dr. William Pepper, who organized the Pan-American Medical Congress and so ably and successfully presided over the two first meetings. To his wise supervision is due much of the success of the Congress since its inception. At this time we especially feel the loss of his guiding hand and executive ability to help us in achieving still greater success. In our grief we are not alone, for many and varied enterprises are hampered by the absence of his painstaking care; among the more prominent may be mentioned the Congress of American Physicians, the University of Pennsylvania, the Commercial Museums (a great and original conception of his own), and the Archeological Museum of Philadelphia. Let his example of untiring industry and the memory of his useful life spur us on to carry out the important work planned by our beloved President, Dr. William Pepper. May the crown of glory which he richly deserved be his is the prayer of his associates of the Pan-American Medical Congress."

International Responsibilities, Sanitation and Progress.—Dr. Walter Wyman, Surgeon-General of the United States Marine Hospital Service, read this paper. If there are several specifics for various diseases such, as smallpox, plague, diphtheria, etc., why do they persist? Because sanitary application has not kept pace with sanitary knowledge. The pride of municipalities should consist in perfect sewerage, paving, light, and ventilation in its houses—slums should not exist; the death-rate in them is 50 to 150 per cent. greater than in the better parts of a city and the average length of life shortened by at least ten years. Good sanitary surroundings are the best methods to get rid of disease. Professional sanitarians should be a class of men well versed in law—the average doctor makes a poor legislator. A good lawyer would make a better health officer than the average doctor. The future sanitary legislation should be toward improving the dwellings of the poor, reclaiming slums and rookeries. There are 44,000 tenement-houses in New York and 2,000 are being added every year. He cited the great reformatory experiment being carried out in London, involving an annual expenditure of $10,000,000 and affecting 40,000 people. He advises that the health officer of a city should never be a political appointment. Municipal cleaning and sanitation are not a field for National Government. The sanitation of sea-port cities by the Federal Government is now being considered. International agreement upon the eradication of yellow fever from this hemisphere is a good idea, but it would be difficult to establish it. The city of Santiago de Cuba, formerly a pest-hole of yellow fever, has now been free from the disease for more than a year. This is a good example of what sanitation may accomplish. In Havana the average mortality

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for nine previous years has been 46.71 per thousand; in 1900 it was 24.40 per thousand. Four requisites are necessary to accomplish these results: (1) Effective sanitary administration; (2) good sewerage and drainage; (3) sanitation of harbor; (4) disinfection of infected houses or their destruction.

A short address was delivered by a Mexican representative, who proposed an international congress for the suppression of alcoholism.

SECTION ON GENERAL MEDICINE.

FIRST DAY—FEBRUARY 4TH.

Propagation of Yellow Fever.—The session was opened by Dr. Carlos A. Finlay, President of the Section, who read a paper on this subject. In 1812, he said, Dr. Colomar, describing the epidemic in Murcia, suggested the contagious character of this disease and appreciated many of the natural influences which limit the communicability of it. Dr. Barton (1853) found that a temperature below 60° F., or above 90° F. was very unfavorable to propagation and Dr. Pennell showed that a number of patients moved to an altitude of 3,000 feet in no instance communicated the disease. The steamship "Plymouth" investigation in 1880 led Dr. Bemiss to report that the poison of yellow fever "is reproduced chiefly, if not wholly, within the body of the patient, but undergoes some change after its escape from the body, which increases its toxic qualities." Dr. Finlay expressed the opinion in 1881 that three conditions were necessary to the spread of the disease: (1) A previous case of yellow fever; (2) a person susceptible to the disease; (3) "the presence of an agent entirely independent for its existence of the diseased, but which is necessary in order that the disease may be conveyed from the patient to a healthy individual." He suspected the *Culex* mosquito and experiments at once justified his suspicions. He inoculated twenty soldiers by allowing the mosquito to feed upon undoubted cases of yellow fever and within two or three days permitting it to sting one of the soldiers. In nearly every instance a mild form of the disease appeared within four or five days, and the patients subsequently remained free from contagion although they had lately arrived in the infected country and were not immune. Recently the achievements of Drs. Reed, Carroll and Agramonte, with more approved and scientifically-accurate methods, have proven that the *Culex* mosquito is undoubtedly the means of communicating this virulent disease.

Prolonged Fevers of Nicaragua.—Dr. Louis H. Debayle of Nicaragua read an interesting paper in which he went over the etiology, diagnosis and treatment of these conditions. He stated that the principal characteristics of these fevers are that they are continuous, with variable remissions from time to time; that they are not typhoid in character, and that they are prolonged for weeks and months; that they rarely present renal, nervous or cardiac complications, and that they are nearly always accompanied by persistent constipation and loss of appetite, that they are very slightly influenced by quinine and antipyretics in general; that in the blood the hematozoan of Laveran is always found in one form or another. He then went on to analyze the variations in the temperature, the character of the pulse, and the condition of the various other organs during this prolonged fever. As it is rarely accompanied by death, he had not had the opportunity to make postmortem examinations. The diagnosis was at first extremely difficult, but it was necessary to differentiate it from various prolonged fevers, typhoid, bilious remittent fever, typhomalarial fever and Malta fever. With this latter it had many points of similarity, but he did not believe that the cases he had seen could come under this category. It is true that these fevers are common in malarial regions and where typhoid is rare, but he did not believe they were cases of chronic malaria, that the presence of the Laveran organism was only evidence of a double infection. In the treatment of these fevers antipyretics are of little avail, much less so quinine, given even hypodermically or in large doses. The use of intestinal antiseptics and tonics had given him the best results. His conclusions were that this was a distinct fever, different from typhoid, bilious, remittent or other acute forms of fever. Dr. Duplan of Mexico claims to have observed the same form of fever in Tierres Callintes as described by Dr. Debayle, and he is glad to note that other observers in another country have had the same experiences.

Dr. Martinez of Havana remarked that the fevers described by Dr. Debayle are similar to what is called in Cuba enterosepsia, and in his opinion are nothing more than cases of Malta fever; and that some of these cases described by Dr. Debayle are light cases of malarial fever, with an added infection of Malta fever. He claims to have seen such cases in Havana.

Dr. Coronado believes that these fevers, as described by Dr. Debayle, are nothing more than prolonged remittent malarial fevers.

Dr. Caluck, who has practised for twenty years in Costa Rica, has observed the same forms of fever in his practice. He believes that this prolonged fever exists from Mexico to Panama.

Dr. Perna of Cienfuegos believes that these fevers are not alone found in the tropics, but that he remembers a description of a fever by Dr. Robert of Barcelona similar to this, and designated by him as simple infectious fever. He does not believe that they are paludic or malarial, on account of their benignancy and because of the fact that they are not influenced by quinine.

Dr. Fernandez of Puerto Rico stated that he practises in a region where malaria is unknown,

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and that he has had occasion to observe many cases of this fever.

Dr. Guiteras said that he believes he was the first to publish observations of this form of fever in the annals of the Marine Hospital Service in the United States in the year of 1881. He described it under the name of continuous thermic fever. He believed it was due to the disarrangement of the thermic centers, but abandoned this theory when he noticed in Key West that this fever was transmissible; he then believed that it was an infectious fever. He has never found the hematozoan in the blood, and lately he is inclined to believe that they are cases of Malta fever, as he saw a case recently in Philadelphia in an officer who had returned from Puerto Rico. In regard to secondary infections, a term so commonly used in this country, he does not believe that they are brought about by coli bacillus, as this is a pyogenic organism, and the formation of abscesses is very rare in these cases.

Dr. Garcia of Havana has seen many similar cases in the "Quinta de Dependientes," and has never been able to demonstrate the present of the hematozoan in the blood. They never respond to quinine or intestinal antiseptics.

In closing the discussion, Dr. Debayle said that he believed at first that these fevers were typhoid; in other cases that they were tuberculosis; in others that it might be probably cases of Malta fever. But he is convinced that Malta fever, with its typical remission in the 21st day, exists in Nicaragua, while in the cases he had just described, the temperature is never remittent or reduced to normal. The symptoms are distinct from those of Malta fever. He intends to make new investigations in regard to this fever on his return to Nicaragua.

Borras Fever.—Dr. Luis Perna of Cienfuegos read a paper on this subject. This disease is a very grave fever. It usually attacks children, but sometimes the aged. It is characterized by black vomit, in small quantity, or very abundant, which may come on immediately following the initial fever, or several days after. Very rarely is it accompanied by albumin, and never by epistaxis, melena, hiccough or icteric discoloration; it may attack the same person more than once; both whites and negroes are susceptible; it is malarial in origin, and consequently its rational treatment is quinine. Analysis of the blood has always demonstrated the presence of the malarial parasite. It is different from yellow fever in that it is not contagious and not accompanied by albumin, hiccoughs, epistaxis nor icteric discoloration.

Dr. Edelman is of the opinion that borras fever is a syndrome and not a pathological entity. He has seen cases which were clearly those of yellow fever and others which were undoubtedly cases of malaria. He has never observed cases due to typhoid fever nor profound lesions of the gastro-intestinal tract.

Dr. San Martin does not believe that borras fever is a pathological entity, but a symptom which may present itself in other fevers as in yellow fever or malaria.

Dr. Dueñas did not discuss what borras fever is, but later on will take up this subject in a paper which he is to read on the diagnosis of yellow fever in the native Cuban. But he referred to the fact that Kelock, Kierner and Loupy have described the severe hemorrhages from the mouth which take place in the hemoglobinuric bilious fever.

Dr. Moreno does not believe that borras fever is a paludic fever. He believes that it is a form of yellow fever in natives.

From the results of these discussions it was evident that the same difference of opinion exists now in regard to the duality of yellow fever and borras fever. Many native physicians are of the opinion that it is a peculiar fever which attacks children; others, that it is a form of malaria; still others that it is a symptom of various conditions; while the majority believe that borras fever is yellow fever in the native.

Etiology of Yellow Fever.—This was the title of a paper by Drs. Walter Reed, James Carroll and Aristedes Agramonte, Acting Assistant Surgeons, U. S. Army. In a preliminary paper read before the American Public Health Association, at its meeting at Indianapolis, Ind., October 22-26, 1900, the authors arrived at the conclusion, based on observations made by them that the mosquito was the intermediate host for the parasite of yellow fever. In this additional note they presented the results of their further investigations on this important subject, which have been continued at an experimental sanitary station (Camp Lazear) near the town of Quemados, Cuba. At this station, in strict quarantine, and with every source of infection absolutely excluded, they succeeded in infecting 85.71 of those individuals who have been bitten by purposely-contaminated mosquitoes (*Culex fasciatus*. Their observations do not conform with the opinion that mosquitoes carry the specific agent in their proboscis, and simply transfer it from one individual to another in a mechanical way, but appear to demonstrate that the parasite of this disease must undergo a definite cycle of development in the body of the mosquito before the latter is capable of conveying infection. This period would seem to be not less than twelve days. The question of house infection is also considered, and it is shown that this infection is due to the presence of mosquitoes that have previously bitten patients suffering from yellow fever; and that the danger of contracting the disease may be avoided in the case of non-immune individuals who sleep in this building by the use of a wire screen. It was also demonstrated by observations made at this camp that clothing and bedding contaminated by contact with yellow-fever cases, or by the excreta of these patients, are absolutely without effect in conveying this disease. The following conclusions were reached: (1) The mosquito (*Culex fasciatus*) serves as an intermediate host for the parasite of yellow fever. (2) Yellow fever is transmitted to the non-immune individual by a mosquito that has previously fed on the blood of those ill with this disease. (3) An interval of about twelve days or more after contamination appears

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to be necessary before the mosquito is capable of conveying the infection. (4) The bite of the mosquito at any earlier period after contamination does not appear to confer any immunity against subsequent attacks. (5) Yellow fever can also be experimentally produced by subcutaneous injection of blood taken from the general circulation during the first and second day of this disease. (6) An attack of yellow fever, produced by the bite of the mosquito, confers immunity against a subsequent injection of the blood of an individual suffering from the unexperimental form of this disease. (7) The period of incubation in thirteen cases of yellow fever averaged from forty-one hours to five days and seventeen hours. (8) Yellow fever is not conveyed by fomites and, hence, disinfection of articles of clothing, bedding and merchandise, supposedly contaminated by contact with those ill with this disease, is unnecessary. (9) A house may be said to be infected with yellow fever only when there are present within its walls contaminated mosquitoes, capable of conveying the parasite of this disease. (10) The spread of yellow fever can be most effectually controlled by measures directed to the destruction of mosquitoes, and the protection of the sick against the bite of these insects. (11) While the mode of propagation of yellow fever has now been definitely determined, the specific cause of this disease remains to be discovered.

The discussion was opened by Dr. Perna who said that it is sophism to believe that *post hoc, ergo propter hoc*, that is to say, as Carmona, Freyre, Sanarelli and others have fallen to this error, one must not be too precipitate in accepting the result of statistics. He stated that the studies made of mosquitoes are very old, and that a French doctor, who died about the year of 1850, expressed the opinion that malaria, yellow fever and cholera were propagated by mosquitoes. Dr. Perna also criticised the methods employed by the Commission in making experiments on human beings and stated that he is entirely opposed to such experiments.

Dr. San Martin defended eloquently and with strong arguments the high scientific standard of the experiments as carried out by this Commission, and also brought out the point that it was not statistics, but facts that this Commission presented.

Dr. Holbeck was particularly interested in the paper and expressed his opinion that the problem of 200 years was about to be solved and that the old quarantine regulations should be greatly modified. He also described the existence of a pine belt within a short distance of Charleston, S. C., in which yellow fever never developed as an epidemic; although patients ill with the disease would go there during the existence of epidemic in Charleston and would die from the disease, it would not spread. Mosquitoes are not known in that region, and probably this is the true explanation of the above fact. He concluded by emphasizing the inestimable value of these experiments if they proved to be true.

Dr. Martinez supported Dr. San Martin's views. He took up the moral question and claimed that without these experiments the truth could not have been discovered.

Dr. Guiteras who, up to within a short time had been adverse to the theory of the transmission of this disease by mosquitoes, now accepted as incontrovertible the results of the experiments of the Commission. He followed with interest many of the experiments, and as a member of the Commission saw most of these cases, which he had no hesitation in pronouncing typical cases of yellow fever. A fact which impressed him forcibly was the absolute control of the epidemic by Dr. Reed. The cases would develop or not as he wished. He does not think that the mosquito should be called the *Culex fasciatus*. Giles' description of the *Culex tiniads* mosquito agrees more closely than with the *Culex fasciatus*. He describes the difference between them. He is inclined to consider them a genus apart, because they lay eggs different from the other form of *Culex*.

Dr. Finley stated his admiration for the work of the Commission. He said that he believes that this session of the Congress will go down in history as of great importance. He believes that the differences between his opinion and that held by the Commission will disappear in the course of time. He states that they were based upon the fact that he investigated with three varieties of mosquitoes, while the Commission has been restricted to one variety; that the Board was placed upon better footing for obtaining satisfactory results; that the negative result obtained by the inoculation of mosquitoes of short infection should not induce the Commission or the Board to make such hard and biased rules as are evidenced in its conclusions.

In conclusion Dr. Reed said that he was profoundly impressed with the interest and attention given to these experiments. In regard to the moral aspect of the case, he did not think that any one appreciated the position in which he found himself nor the difficulties which beset his path. The first experiment was made on a member of the Board, Dr. Carroll. The senior member of the Board expected to take his bite in turn, but was unexpectedly called North. As no animal could be given the disease, and it was useless to follow the previous indefinite experiments, it was absolutely necessary to make these experiments on human subjects, or otherwise volumes could have been written and discussed and yet one would have been no nearer the truth than at first. No progress could have been made toward an exact knowledge of the disease unless human subjects were used. All experiments were performed upon persons who had given their free consent. In reference to the remarks of Dr. Holbeck of Charleston, he did not say that the disinfection of vessels should be dispensed with; but only referred to such articles as bedding and clothing. It is necessary to get rid of the mosquitoes, and this simplified the process of disinfection. In regard to the remarks of Dr. Guiteras in reference to the name of the mosquito, Dr. Howard of Baltimore told the speaker that *Culex fasciatus* is identical with *Culex tiniads* as described by Giles. Theobold separates *Culex tiniads* from the genus *Culex* and places it in a new genus, *Stegamina*. These lay their eggs in a peculiar way, and there is also a

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difference in the anterior claws of the male insect from those of the other *Culex*. There is also a difference in the larva of the *Culex fasciatus*. It is very interesting also to note the fact that this is the very mosquito that Dr. Finley used in his experiments and that this particular mosquito does not belong to the genus *Culex*; therefore, malaria has a genus of its own, namely, *Anopheles*, and yellow fever, the genus *Stegamina*.

Yellow Fever.—At the afternoon session Dr. Pedro Albarran of Havana described an epidemic of yellow fever which occurred in San Diego del Valle, Province of Santa Clara, twenty years ago. Out of a population of 300 inhabitants, 61 were attacked and 48 died. The interesting point about this epidemic was that native Cubans, both blacks and whites, suffered most from the ravages of this disease. The disease was traced to a Spanish soldier who died in the outskirts of the town three days after his arrival. The Cuban who nursed and buried him developed the disease five days after. The epidemic lasted all summer and cold weather stopped it. Only two cases occurred during the following spring.

At the Thursday morning session a paper on Prophylaxis in Yellow Fever was read by Dr. José A. Trémols of Havana.

Dr. Liston H. Montgomery of Chicago proposed a new office in the National Cabinet, namely, a Department of Health.

Dr. Ramon Guiteras read the paper of Dr. Alvah H. Doty, Health Officer of the Port of New York, entitled The Necessity for a More Careful Investigation as to the Cause of Outbreaks of Infectious Diseases. The promptness with which an outbreak of infectious disease is brought under control or suppressed depends principally upon our knowledge of the means by which it is transmitted. The doctor emphasized the fact that, whereas the laity and many of the medical profession believe that the clothing actually worn by *well* persons is a usual medium of infection, careful investigation shows that this occurs only in rare instances. Experience teaches that it is the mild, ambulant or convalescent cases which are unrecognized as the carriers of infection. He cited the recent epidemic of smallpox in New York City, and referred to the numerous mild ambulatory cases. Mild or ambulatory cases of infectious and contagious diseases constitute a greater menace to the public health than those well marked, inasmuch as they frequently are not recognized or looked for. Another fact to be borne in mind is that infectious diseases are generally contracted by being in contact with cases of a like character. His conclusions are as follows: He is satisfied that the clothing of well persons and the cargoes of ships are rarely the means of transmitting disease. . . . It is the mild, ambulant or convalescent cases which pass unrecognized, "but this does not imply that we should relax our efforts to protect the public health, but should bring about a more careful and thorough investigation as to the means of transmission of infection."

Dr. Moreno of Havana thinks that the subject is important and believes that more attention should be directed to the cases of relapse in yellow fever which may occur after fifteen days. When they occur the cause is attributed to infected objects. Diphtheria he believes can be transmitted by the clothing of healthy persons.

Dr. John Guiteras said he considered Dr. Doty's paper as the first plausible expression of modern quarantine ideas. Since 1881 he has always said that the first case of yellow fever reported is not the first case of the epidemic. He has demonstrated not only previous mild cases but evidences of fatal cases occurring before the first recorded case. The importance of mild cases in connection with yellow fever is great and the negro is often sick and the disease unrecognized. One of the sources here is the native-born child. Scarlet fever is especially difficult to recognize in negroes. One epidemic in Savannah was due to mild cases in negroes. He congratulated Dr. Doty on the excellence of his paper.

Dr. Marcour requested information as to life of mosquitoes. Dr. Agramonte stated that mosquitoes hibernate and live from fall to spring. Dr. Porter of Florida cited a case in which eleven out of a crew of fourteen died of yellow fever before reaching Rio. The captain stated that no mosquitoes were on board. The question brought up by Dr. Doty is not *new*. It has long been believed that sunlight and air are Nature's disinfectants.

Dr. D. T. Lainé of Havana does not think that much stress should be laid upon the observation of physicians when made so long ago as twenty years, as in the case cited by Dr. Porter. Not long since in company with Dr. Guiteras he went on board the "Mexico," then lying in the Bay of Havana. The captain and crew assured them that there were no mosquitoes on board and yet they found several dozen in different staterooms. Mistakes in the diagnosis of cases are frequent.

Dr. Halbech of Charleston believes that the whole history of yellow fever is to be rewritten and recommends each one present to use his good offices on his own government toward having this commission appointed.

Madura Foot.—Drs. A. Diaz Albertini and C. M. Desvenine of Havana reported two cases. One of the cases was shown and the amputated foot of the other case. A description was given of the parasite found in the granules, *Streptotrix Madurae*, and microscopic preparations were shown.

Dr. Calmech of Costa Rica has seen many cases in Costa Rica where it is confounded with elephantiasis. He believes the disease can be cured in the beginning when the nodules are small. He claims that elephantiasis is rare, but the Madura foot very common.

Dr. Debayle of Nicaragua has seen many cases in his practice. Dr. Moreno does not think that the absence of filaria in a suspicious case should prove the absence of elephantiasis.

(To be continued.)

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THE MEDICAL NEWS.

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ORIGINAL ARTICLES.

THE VALUE AND ACCURACY OF THE ROENTGEN METHOD OF DIAGNOSIS IN CASES OF FRACTURE.[1]

BY CHARLES LESTER LEONARD, A.M., M.D.,
OF PHILADELPHIA.

A DEMONSTRATION of the accuracy and value of this method in the diagnosis of fractures is probably the most useful view which one can take as a subject for discussion. It serves to show, in part, that the errors which have been attributed to this method are in reality due to its inaccurate employment and the misinterpretation of the results obtained.

The accurate mechanical principles employed in securing the data upon which a diagnosis by the Roentgen method is based insure absolute results when the technic of its employment is correctly understood, and the data obtained by its use rightly interpreted. These data, the skiagraphs, have the advantages of mechanical production and permanence; they can be studied by one or more observers and compared with the normal, or other pathological cases. Anatomical and surgical knowledge are as essential to the accurate employment of this method of physical diagnosis as they are to other methods. They must, however, be combined with the necessary technic in handling the apparatus and the clinical experience which fits the observer to deduce the correct diagnosis.

Such technic is essential to the employment of all the mechanical devices employed in physical diagnosis. It is as true of the laryngoscope, the ophthalmoscope and the clinical thermometer as it is of the Roentgen-ray apparatus.

The treatment of fractures by the ordinary methods has produced good functional results in the majority of cases. There is, however, in the practice of the most experienced surgeons, a proportion of cases in which the results are not at all satisfactory, and a still greater proportion in which there is, in spite of fair functional results, a wide field for improvement.

Lane of London, among others, has shown that even slight alterations in the symmetry of the skeleton, especially in the lower limbs, give rise to an unsteadiness in the gait that incapacitates the patient for the pursuance of his calling, if balancing on the feet and security in walking are at all essential. As a consequence of his studies, he has operated in many cases of simple fracture in which he found it impossible to secure complete reduction or to retain the fragments in accurate apposition. The conditions of mechanical obstruction found during these operations proved that satisfactory reduction and retention would have been absolutely impossible by any other than an operative method.

In reference to these cases, he says: "In every simple fracture in which it is important to the individual that the original form of his skeleton shall be retained and his mechanics suffer no alteration, the surgeon should, failing to obtain accurate apposition, as determined by the radiograph, cut down on the seat of fracture and restore the bone or bones to their original form. He must not be satisfied with what is clinically called 'good position,' when by operation he can obtain a perfect result, and in the case of the leg this is particularly important."

There is undoubtedly a large percentage of fractures in which the results can be vastly improved if the methods of diagnosis and treatment are reduced to a scientific, rather than an empirical, basis. The Roentgen method of diagnosis has shown that many fractures that were considered rare exist in a much greater proportion than was suspected, and that the functional loss which was supposed to result from a traumatism or sprain, and was termed traumatic arthritis or a "bad sprain," is often in reality the result of an undetected fracture, which it was impossible to diagnose by other methods of examination. In one instance that has come under my observation, a lady who had received a severe injury of the ankle, desired a skiagraphic examination, as "there had been so many 'bad sprains' in her family." The skiagraph showed that there had been a fracture through the external malleolus which had escaped detection, because of the extreme swelling that followed very rapidly after the injury. In another case a diagnosis of fracture of the fibula was made, and the foot placed in plaster of paris. The functional result was far from good. A skiagraphic examination showed that, instead of a fracture of the fibula above the malleolus, the fracture was through the external malleolus, entering the joint, while the tip of the internal malleolus had also been fractured, the fragment lying in such position as to entirely escape detection.

Not only have unsuspected fractures been frequently detected, but multiple fractures also have been shown to be present where only one was suspected. In addition to the detection of fractures that are only suspected, this method of diagnosis has other advantages which are exceedingly valuable. The exact line of the fracture is determined. This enables the surgeon to set the fracture with greater facility and to guard against the production of deformities which the shape of the fragments show are mechanical possibilities, or the position of the fracture line leads the sur-

[1] Read by invitation at the annual meeting of the Mercer County Medical Society, held at Trenton, N. J., November 13, 1900.

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geon to suspect may arise from the formation of exuberant callus. Thus, in oblique fractures, overlapping and shortening are the dangers to be avoided; in transverse fractures, angular deformity is to be feared; in spiral fractures, a rotation of one fragment on the other is liable to take place: while in fractures that involve the joints, a restriction of motion may result from a malposition of the fragments or the interference with motion due to excessive callus formation. Another advantage is that more accurate information is obtained, and without manipulation. The patient is spared unnecessary pain, while the injured tissues receive no further traumatism, and instead of being devitalized, their recuperative forces are conserved. In addition, the number of fragments, their form, their position, the amount of displacement or shortening, and the presence of small comminutions that are liable to prevent firm union, are all detected by a good skiagraph and render the exact coaptation of the fragments more certain and easier, or determine the impossibility of complete reduction without operative intervention.

This increased facility in diagnosis is not, however, the limit of usefulness in the application of this method to fractures. The accuracy of the setting and the efficiency of the fixation apparatus, or other method of treatment, can readily be determined. In four cases of fracture of the femur that have lately been examined by the Roentgen method, there was overriding of the fragments, and, although the length of the two limbs was equal, there had been no coaptation of the fragments, nor was this possible. The fracture surfaces were practically transverse, yet so roughened that reduction was impossible. Any union in such a position would have been very imperfect and the functional usefulness of the limb would have been impaired. Operation demonstrated the impossibility of securing coaptation in any other way, and secured complete restoration of function without shortening.

It has of late been so frequently demonstrated that perfect reduction and coaptation are impossible in many cases, or that the present methods of fixation are inadequate, that an ever-increasing number of surgeons are advocating and employing open operation. They restrict these interventions to cases in which the Roentgen method shows that perfect reduction cannot be secured, or that it is impossible to maintain the fragments in position with the ordinary fixation apparatus.

Von Bergmann said at the International Medical Congress that the treatment of fractures had made two very important progressive steps in the past ten years. One is the operative treatment of certain simple fractures, in order to produce more exact coaptation of the fragments; and the other, in the field of diagnosis, through the study of their pathological anatomy and the Roentgen method of diagnosis.

Of those who still oppose the operative treatment of simple fractures, Lane says: "Those who continue to assert that they are able to restore broken bones to their original form can readily substantiate the truth of their statements now by means of the radiograph."

The consensus of the best surgical opinion is now undoubtedly in favor of operation in certain cases of simple fracture. The Roentgen method is the basis for the division of the simple fractures into those requiring operation and those that do not. If the skiagraphs show that the fragments have been properly reduced and held in position by the fixation dressing, operative intervention is unnecessary, but when the skiagraph shows that the attempts at reduction and coaptation have been ineffectual, operation should be undertaken, or, at least, as Lane says, "in any case, the patient should have the facts, including the radiographs of the fracture, in the best possible position, laid clearly before him, and he should be allowed to choose which form of treatment he prefers."

The advantages of such a course are very evi-

Fig. 1.—Linear fracture of tibia without displacement.

dent. The advent of the Roentgen method into the diagnosis of fractures has created a higher standard by which the results obtained in the treatment of fractures must be judged. The practitioner can no longer be said to have employed all the means and knowledge to the best of his ability in the treatment of a fracture unless he has employed, or suggested to his patient the employment of, the skiagraph. In addition, if the skiagraph shows that perfect coaptation and fixation have not been secured, he must at least offer his patient the alternative of operative intervention and employ it if it is desired.

The skiagraph has been admitted as evidence. Undoubtedly, many suits for damages will be based upon its findings. The safety of the practitioner lies in its employment to prove that the reduction and fixation have been accomplished, or, if not, he should have proof that he suggested its employment to the patient and was refused its aid. The skiagraph, however, can never form the basis upon which the amount of damages is as-

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sessed. That will depend as formerly upon the functional disability and loss which the patient has sustained. It can only form a part of the evidence, as it does not take cognizance of the injury which has taken place in the soft tissues, although much may be inferred from the relative position of the bones about a joint.

Whenever a skiagraph is introduced as evidence, the defendant should demand the privilege of having a similar examination made, and should employ expert testimony to fully explain its meaning to the jury. It is especially in this connection that the accuracy of this method has been brought in question. Is the skiagraph absolutely certain to detect a fracture? Does it represent relatively the amount of osseous injury? Is the distortion so great as to make it unreliable?

It can be stated definitely that all fractures in the limbs can be detected. This method, however, has as yet its limitations and, while fractures

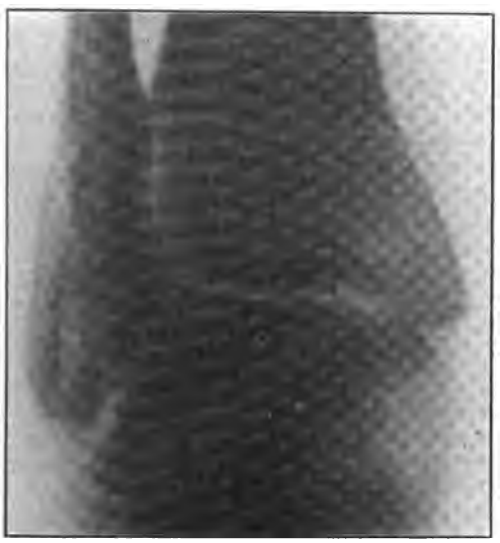

Fig. 2.—Fractures of external and internal malleoli.

of bones in the body may be detected in favorable cases, they cannot at present be excluded. From what has already been said regarding the technic and knowledge necessary to properly employ this method, it can be readily understood that the detection of all fractures in the limbs can only be made by those competent to employ this method accurately. When, however, a negative is secured in which the cancellated structure of the bones can be distinctly seen, the presence or absence of all fractures can be determined beyond a doubt. The detection of the minute linear fractures in the accompanying illustrations shows the possibilities of this method, and it is certain that no fracture would have escaped detection in either of these negatives.

Again, with a technic capable of producing such detail, it is evident that the apparatus has been employed in such a manner as to portray the entire amount of injury and to preclude the idea of distortion. It is, of course, possible to produce distortions and exaggerations; they can be produced in any method of physical diagnosis. They are, however, readily recognized by a competent critic.

One of the great advantages of this method is the possibility of establishing an absolutely negative diagnosis. This is possible in all suspected fractures of the limbs. Such a negative diagnosis is invaluable to the patient. Without it he must undergo the inconvenience and expense which are necessitated by fracture treatment.

The treatment of a limb, suspected of fracture, as if a fracture existed can no longer be considered good surgery and will hereafter lay the practitioner open to the suspicion of exaggerating the severity of the injury which he has been called upon to treat.

These examinations are thus invaluable in the diagnosis and treatment of fractures. They cannot be made correctly and have their true value, except by an observer who has acquired special technic and clinical experience in conjunction with his professional education. Every medical society and medical community owe it to themselves and to their patients to see to it that some one of their number possesses the knowledge requisite to the correct employment of this method for the benefit of the community at large.

1930 Chestnut Street.

PHARYNGEAL ADENOIDS AND HYPERTROPHIED TONSILS.[1]

BY J. H. WOODWARD, B.S., M.D.,
OF NEW YORK.

Pharyngeal Adenoids.—In November, 1869, an English translation of Prof. Wm. Meyer's essay on Adenoid Vegetations was read before the Medico-Chirurgical Society of London. The existence of such growths had been noted before in perhaps half a dozen cases, but, until Meyer had published his observations, the common occurrence and the clinical significance of them had not been appreciated by any one. It is extraordinary that such simple and easily discovered truths should have remained undiscovered so long. But it is more extraordinary still that, after so careful and so complete a description of this important and common condition of the nasopharynx had been given to the world by Meyer, nearly twenty years should have elapsed before the profession in this country was aroused to a real sense of its importance by Hooper. During the last decade, the literature of pharyngeal adenoids has become voluminous. And yet, I am constantly confronted by evidence that it is still advisable to emphasize the importance of this topic, which some of us may be tempted to look upon as too hacknied for further serious discussion.

In a paper on the Prevention of Intracranial

[1] Read before the Rutland County (Vt.) Medical and Surgical Society, July 10, 1900.

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and Intravenous Complications in Suppurative Diseases of the Ear, which I read before the New York County Medical Association in April, 1900, the following paragraph may be found: "The importance of diseases of the nose and throat as predisposing causes of suppurative diseases of the ear should not be forgotten. The existence of hyperplasia of the lymphoid tissue in the vault of the pharynx tends to provoke acute suppuration in the middle ear, and provides a condition favorable to recurrences of the attack. Attention has been directed to these facts by numerous writers; but the lesson has not been learned even by many who are desirous of being known as specialists in otology. Among close observers, there can be no doubt that, in patients under fifteen, an adenoid exists in almost every case of suppuration of the ear. To have any etiological bearing, however, it must promote a chronic congestion of the nasopharynx. But, in order to serve that purpose, the growth need not be very large, although the greater the adenoid the more likely will it be to cause trouble in the ears." These observations embody conclusions drawn from a personal experience in this class of cases beginning in 1885, when I performed my first operations upon pharyngeal adenoids. They are confirmatory of the conclusions reached by Meyer thirty years ago, and coincide with the subsequent experiences of other competent observers.

In the first place, therefore, I would insist that the *excitation of aural disease* is the chief mischief attributable to the existence of pharyngeal adenoids. In their presence, we may encounter deafness without inflammatory invasion of the tympanum, the deafness being due to direct occlusion of the orifices of the Eustachian tubes by the adenoid growth, or to a sequential Eustachian catarrh. In other cases, we may find that the tympanum is the site of a catarrhal inflammation, which may be either acute or chronic. Or, quite as often, we have to deal with an acute or a chronic suppurative disease of the middle ear, with perforation of the drum-head and the other classical symptoms of purulent otitis. These various diseases of the ear in patients under fifteen years of age indicate, first, that an examination for adenoid vegetations in the nasopharynx should be made; and, secondly, that such growths should be removed when they exist, whether they are large or small. It is possible that the otitis may subside, and the function of the ear be restored, in a limited number of cases, without the adenoid operation. But such cases are sure to relapse, and relapses are very deleterious to the function of the ear. Moreover, such recurrences of purulent otitis media may be followed by infective meningitis, sinus thrombosis, or abscess of the brain. The occurrence of those pathological states as consequences of otitis, though rarely justifiable, is generally due in these days to scandalous procrastination and timidity.

The deleterious influence of adenoids upon the patient's general health is a consequence second in importance only to the condition we have just considered. Many of these patients are pale and anemic. The processes of nutrition are imperfectly performed. The patients are dull and listless. The intensity of the symptoms varies with the size of the adenoid growth, being especially marked when the nasopharynx is completely occluded. Obstruction to nasal respiration is doubtless the chief reason for degeneration of the health. But it has seemed to me sometimes that mechanical obstruction of the upper respiratory passages alone is not a sufficient explanation of the phenomena. It has seemed likely that the adenoid may secrete a poisonous substance, the absorption of which may account for some of the changes in the patient's general condition. At all events, it is wonderful what a change is wrought for the betterment of the health of adenoid victims by a thorough removal of the growths. The changes are among the most striking that are ever observed in the medical world. The child speedily casts off the signs and suggestions of malnutrition and dyscrasia. The anemia vanishes; the power of digestion becomes sufficient; and the dull and listless habit is replaced by a normal buoyancy of spirits; while by day and by night, as well, the nasal respiratory function is noiseless, complete, and regular.

Supplementary to what has already occupied our attention, we may consider the symptomatology of pharyngeal adenoids from the following standpoints: (1) Symptoms common to all cases of adenoids; (2) symptoms dependent upon the size of the adenoids; and (3) occasional accessory symptoms.

1. *The symptoms common to all cases of adenoids are* (*a*) hyperplasia of the lymphoid tissue in the vault of the pharynx; (*b*) chronic congestion of the submucous blood-vessels of the inferior turbinated body; (*c*) a more or less profuse mucopurulent discharge.

If one may draw conclusions from reported cases, it is apparent that some operators have overlooked the fact that a certain development of lymphoid tissue in the nasopharynx is normal and necessary to the patient's well-being. The so-called Lushka tonsil is not a pathological structure. It becomes a pathological structure only when it has undergone hypertrophy or hyperplasia. Its function is to secrete mucus for the lubrication of the nasopharynx. And when its function fails, as it does in many cases of chronic nasopharyngitis, it is well known how dry the pharynx becomes and how wretched that state makes the patient. We should have no patience, therefore, with operators who remove the normal structures of the nasopharynx (even down to the periosteum in some reported instances), for the final state of their victims must have been a discredit to the operator and to surgery in general. A brief study of the anatomy and physiology of the nasopharynx, and a short experience in palpating that region in health and in diseased conditions, will enable any one endowed with common sense to differentiate a normal state of the nasopharyngeal structures from an hyperplasia

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of the pharyngeal tonsil, however slight the hyperplasia may be.

Hyperplasia of the pharyngeal tonsil varies in degree in the different cases. In some, it amounts to a more or less boggy thickening of the covering of the superior posterior wall of the nasopharynx. In others, the whole nasopharyngeal space is filled with vascular boggy masses, resembling the softer hypertrophies of the faucial tonsils. Between these extremes, we find many grades of development. The adenoid may be sessile and single, or it may be composed of many pendulous parts. It may contain sufficient connective tissue to suggest a fibroid growth. Associated with adenoids, we generally find a chronic congestion of the submucous blood-vessels of the inferior turbinated body. This constitutes a chronic vascular hypertrophic rhinitis, which, upon removal of the obstruction in the nasopharynx usually subsides without further treatment. A more or less profuse mucopurulent discharge from the nasopharynx appearing on the posterior wall of the oropharynx, and sometimes at the nostrils, is common to these cases; and its existence should excite suspicion of the presence of an adenoid.

2. *The symptoms dependent upon the size of the adenoid are* (*a*) alteration of the voice, as if the patient were suffering from a cold in the head; (*b*) mouth-breathing; (*c*) snoring and choking in sleep; (*d*) general malnutrition; (*e*) deafness; and (*f*) chronic headache and mental dulness.

These symptoms vary in intensity in every case. During the summer months they are very much less marked, as a rule, than during the colder and damper portions of the year. The improvement noted by the parents during the warm weather has often proven delusive enough to effect a postponement of radical treatment to the permanent detriment of the patient's well-being. I am sorry to admit that this responsibility has been shared too often by the family physician.

3. *The occasional accessory symptoms are* (*a*) asthmatic seizures; (*b*) habit (facial) chorea; (*c*) epileptiform attacks. To these may be added the state of deaf-mutism as one of the consequences of adenoids occurring in infancy, for adenoid vegetations occur in the earliest months of infancy, when they not only threaten the integrity of the ears, but sometimes interfere so much with the nursing power of the child as to endanger its life.

A positive diagnosis of pharyngeal adenoids is made by physical examination of the nasopharynx. In certain cases an expert may detect them by anterior rhinoscopy. In a limited number of cases they may be discovered by posterior rhinoscopy. Every unprejudiced physician who is experienced in throat work must realize that it would be hazardous to rely upon that method for the detection of these growths. The method of examination that will surely establish a correct diagnosis in every instance is characterized by thorough and deliberate exploration of the nasopharynx with the finger. Necessarily, the diagnostician must be familiar with the normal and the pathological anatomy of the nose and throat. Objections to digital exploration of the nasopharynx based upon the alleged dangers of injury to the normal tissues, have no especial importance. I have never observed any harm to accrue from that procedure.

Adenoid vegetations are very rarely seen in patients who are more than twenty years of age. For, in a majority of the cases that are allowed to pursue their natural course, retrogression of the hyperplasia takes place during adolescence. It is not proper to wait for this change, however, because during the decade that elapses while it is taking place the patient's hearing may be destroyed and his general health permanently deranged.

Local applications of such alteratives and astringents as tincture of iodine and nitrate of silver may be a sufficient treatment in a small number of special cases, but the real management of pharyngeal adenoids consists in their removal by operation. It seems to me best that an operation should be undertaken in almost every case, whether the adenoid is large or small, for, while in certain patients no important symptoms may be attributable to the growth, one cannot be sure that complications in the ears may not supervene at any moment. The operation for the removal of adenoids, although a serious one, is not especially dangerous. It is true that death has occurred in a few cases of adenoid operations, but the danger of a fatal termination may be almost entirely obviated by careful preparation of the patient for operation, by caution in the administration of the anesthetic, and by celerity and precision in conducting the operative work. Hemorrhage is often profuse for a few moments, but it ceases spontaneously. I regard the administration of an anesthetic as the source of greatest danger in these operations, and I often operate without resorting to one, if I am able to manage the patient properly.

The manner of operating which I prefer, however, is briefly as follows: The child is seated upon my assistant's right knee with its head resting on his right shoulder. Chloroform is then administered until the patient is relaxed, when the mouth-gag is inserted. Then, as soon as I am sure that the patient is not too profoundly anesthetized to swallow, I proceed with the operation, first using the Gottstein curette, which is passed as firmly and as rapidly as possible several times over the region from which the growths project. Blood and detritus are then cleared away from the pharynx, and when the bleeding has subsided, I examine the nasopharynx again with my finger. It is essential that one should be especially careful to note whether the posterior nares are perfectly free, for vegetations hanging close to and obstructing them have often been overlooked, and the operation has failed in consequence. If I find that there are still growths in the nasopharynx that have escaped the curette, I locate them with my finger and remove them

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with the cutting forceps, which I devised as a modification of the Loewenberg instrument.

It is rarely necessary for the patient to remain in bed more than a day, even when an anesthetic has been administered. The only after-treatment required, as a rule, is cleanliness of the wound, cod-liver oil, iodide of iron, fresh air, and good food for the general condition. Any residual catarrh of the nose or throat should be eradicated before the patient is discharged. The aural complications must be treated according to their indications.

Hypertrophy of the Faucial Tonsils.—Associated with pharyngeal adenoids, we frequently encounter a hypertrophy of the faucial tonsils. While it is true that the former are often unaccompanied by any increase in size of the latter, hypertrophied faucial tonsils are as a rule, in young subjects at any rate, associated with a more or less marked hyperplasia of the lymphoid tissue in the nasopharynx. The common coexistence of adenoid vegetations with hypertrophied tonsils should never be forgotten. There are, however, many cases of hypertrophy of the faucial tonsils in which no trace of an adenoid may be found.

The aggregations of modified mucous membrane between the pillars of the fauces, known as the faucial tonsils, are normal to the healthy throat. Their function is to secrete a mucus suited to the maintenance of a proper degree of moisture and for the facilitation of the act of deglutition. This is a beneficent function which should be conserved. It has been contended that the faucial tonsils are portals by which the germs of various diseases enter the body. Since the probability that this is often true has not been absolutely established, the integrity of the tonsil should be maintained, unless it has undergone pathological changes that increase its bulk or modify its function.

Hypertrophy of the faucial tonsils is observed especially before the age of puberty. During the period of adolescence resorption of the hypertrophied and diminution in the size of the normal tonsillar tissue is known to take place. But these changes are not universal, for enlarged tonsils are not very uncommon in patients who have passed that stage of development. We are unable to assign any very definite reason for the occurrence of hypertrophy of the faucial tonsils or, for that matter, of the pharyngeal tonsil either. I was once compelled to ablate hypertrophied faucial tonsils in a child eleven months old. But, in general, the existence of the hypertrophy is first noticed when the patient is between the ages of three and ten years.

As is well known the degree of the hypertrophy varies in the different cases, from a slight projection of the tonsillar tissue beyond the plane of the faucial pillars, to an enlargement that reaches to or passes beyond the median line of the oropharynx. The substance of the hypertrophy is strengthened more or less by the presence of connective tissue; and the more abundant the latter, the firmer and more fibrous is the hypertrophied tonsil. In young patients, there is commonly no great proliferation of connective tissue, and the amputated tonsil, although firm, still breaks down easily under pressure of the thumb and finger. In adults, we are more likely to encounter the fibrous tonsil, which is firm and unyielding.

The symptoms that are attributed to hypertrophied faucial tonsils are (*a*) alteration of the voice, in which its tone is muffled, as though the patient were holding something in his mouth; (*b*) snoring and choking in sleep; (*c*) excessive secretion of mucus in the throat; (*d*) frequent attacks of acute catarrhal inflammation in the throat, and follicular tonsillitis; (*e*) chronic enlargement of the cervical lymphatic glands; (*f*) mouth-breathing; (*g*) deafness; (*h*) general malnutrition. Especial attention should be given to the changes observed in the cervical lymphatic glands, for it has happened that a diagnosis of tuberculous infection has been entertained when the enlargement of the glands was due to a non-infectious hypertrophy of the tonsils, or to a simple catarrhal pharyngitis.

The treatment of hypertrophy of the faucial tonsils depends, in a measure, upon the degree of the hypertrophy and the symptoms present. If the patient is subject to frequent attacks of sore throat, follicular tonsillitis, or peritonsillar abscess, even though the tonsils are not markedly enlarged during the period of quiescence, they should be removed by operation, if possible, or reduced in size by applications of the actual cautery, or astringent alteratives. Moderate hypertrophies of the tonsils may not give rise to any very marked symptoms, and they may be treated with the iodine preparations locally and internally. But when hypertrophy is such that the lumen of the oropharynx is materially reduced during the period of quiescence, especially in children, I am convinced that the tonsils should be removed.

The danger of serious hemorrhage after tonsillotomy has given rise to a great deal of discussion, and it must not be ignored. In the first place, a dangerous hemorrhage may be expected in "bleeders" after tonsillotomy, in cases of fibrous tonsils, and during acute inflammations of the tonsil. Severe hemorrhage in other cases is so rare that its occurrence need not be feared.

Hemorrhage after tonsillotomy may be either primary or secondary. Primary hemorrhage may be very profuse for a few seconds, but it usually ceases spontaneously and requires no especial treatment unless an artery of some magnitude has been injured. Spurting vessels may be seized with long-handled clamps, which may be allowed to remain *in situ* for a number of hours, when the artery will have become occluded. Parenchymatous hemorrhage may be profuse, but as a rule it ceases spontaneously. I am convinced that hemorrhage after tonsillotomy is often aggravated by persistent manipulation of the wound in distracted efforts to check the bleeding.

Secondary hemorrhage of a troublesome nature is more common. It occurs a few hours after

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the operation and may be profuse and alarming. The exercise of common sense is especially urgent in these cases. The use of styptics is to be condemned, for none of them is potent enough to control a serious hemorrhage, and all of them irritate and inflame the structures with which they come in contact. Direct pressure upon the bleeding part, cording the extremities, the upright position, and rinsing the throat occasionally with hot water containing alcohol or alum, may be tried. Should the hemorrhage really threaten the patient's life, ligation of the bleeding point, or suture of the stump of the tonsil may be done. Or, as a last resort, ligation of the common carotid may be considered, although it is one of the rarest necessities, even in apparently desperate cases.

With the guillotine, we should remove as much as possible of the hypertrophied tonsil, notwithstanding the fact that ablation of a small section will often cause the remainder to shrink to normal proportions. In small and in unmanageable children a general anesthetic will be necessary. As in operations upon adenoids, I prefer chloroform for general anesthesia. Cocaine should not be used in operations upon adenoids; but in patients who are not very young, it may prove serviceable as a superficial anesthetic in tonsillotomy. I do not consider it a safe practice to inject that drug into the substance of the tonsil. In choosing chloroform for general anesthesia, I know that I am somewhat heterodox. It is a well-known fact that ether irritates the respiratory passages and excites an excessive secretion of mucus in the throat and bronchial tubes, especially in the class of cases which we are considering. It is always more difficult to anesthetize such patients, and a relatively larger portion of ether is required to produce the desired effect. This endangers the respiratory center to an appreciable degree. Chloroform does not irritate the air-passages, nor does it cause an excessive production of mucus in the throat and bronchial tubes. A small quantity only is required. A reckless anesthetizer may give an overdose of chloroform, but a properly-instructed and cautious one would not make that mistake. We are all stricken with horror by the reported sudden deaths from chloroform. If, however, those cases had been carefully observed, I am confident that danger signals would have been noted long before the heart was paralyzed by an overdose of the drug. I do not believe that death from chloroform occurs without warning. The results of hundreds of experiments upon animals made by competent men and a rather large personal clinical experience with chloroform alike force me to that conclusion. Chloroform is not as dangerous as it is reputed to be, and ether is less safe, especially when given to children suffering from diseases of the throat, than many of us are apt to assume.

Given a case of hypertrophied tonsils associated with pharyngeal adenoids, shall we operate upon both conditions at the same sitting, and if so, which shall we remove first? The reply to the first question depends upon the individual case. In some instances it is proper to operate upon tonsils and adenoids at the same *séance*; but when the child is not strong and if the growths are large, it is wiser to divide the work between two sittings. Then, the tonsils may be removed first and the adenoids a few days later. Prolonged operations upon the throats of small children are not recommended, for there is danger of causing in them a serious degree of shock. Severe inflammatory complications in the pharynx, larynx, and even in the lungs may be excited by prolonged operations upon adenoids and tonsils. Fibrous tonsils may be extirpated with safety by means of the cold-wire snare. And reduction of tonsillar hypertrophy in "bleeders" may be accomplished by applications of the galvano-cautery.

Up to the present time, I have not encountered a patient on whom a tonsillotomy had been done, who was not benefited, in some measure, at least, by the operation. I have not seen a case in which the quality and the strength of the voice was not improved by removal of the obstructions in the fauces. The alleged evil effects of tonsillotomy upon the organs of generation have not come under my observation.

The post-operative treatment of tonsillotomy consists in keeping the wounds clean. An alterative astringent may be indicated as a local application whenever the process of healing shows a tendency to become sluggish. As a rule, the wounds heal rapidly after operations upon hypertrophied tonsils and pharyngeal adenoids; and cicatrization is complete within a fortnight.

58 West 40th Street.

A REPORT OF SOME CASES OF ABDOMINAL SURGERY, WITH REMARKS ON THE DIAGNOSIS OF CARCINOMA OF THE CECUM AND THE SURGICAL TREATMENT OF CARCINOMA OF THE LIVER AND THE GALL-BLADDER.

BY CHARLES GREENE CUMSTON, M.D.,
OF BOSTON, MASS.

(Concluded from page 263.)

Kuester reports a case of resection of the liver and the gall-bladder which was unsuccessful, and this bad result he attributes entirely to the method which he used which was one advocated by Terrier. This consists of passing a large trochar through the parenchyma of the liver and through this thick elastic tubing was carried, and thus elastic ligatures were placed in the liver substance so as to control hemorrhage. The neoplasm was pulled outside the abdominal wound which was left open, but the tumor was not removed. Before doing this the cystic duct had been ligated and cut. The patient died from sepsis and this authority recommends therefore that in the future the tumor should be removed after the application of an elastic ligature.

The two following cases have been reported by

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Czerny. The first was a woman thirty-three years old who three months previously had been suddenly attacked by a very severe pain in the abdomen which lasted three days and caused unconsciousness for a quarter of an hour. Four weeks before the operation was performed the patient was again attacked by the same piercing abdominal pains, more marked in the right and left hypochondrium, and these attacks of pain were repeated every day after this. All this time the patient was jaundiced.

A subcutaneous lipoma was found in the right lumbar region, and a resisting mass could also be detected under the edge of the liver at about the level of the tenth rib; this mass was somewhat convex and was directed downward; it was about 3 centimeters wide and was very sensitive to pressure, and a diagnosis of cholecystitis and cholelithiasis was made.

At the operation the lipoma was first removed and then the incision was carried to the median line just below the umbilicus. The gall-bladder was considerably enlarged and had contracted adhesions with the omentum, and after these had been broken down, its surface was found to be full of small nodules. After the gall-bladder had been opened a large number of calculi were removed. The gall-bladder was drawn forward, but was torn by the tension and as the thickness of the wall and the increase in size of the lymphatic glands seemed to indicate a malignant transformation of the organ, it was decided to perform cholecystectomy. The abdominal incision was increased in length and the border of the liver was turned upwards so that the hilus was exposed. The hepatic duct was then directly opened above its junction with the choledochus, and then was closed carefully as possible by sutures. The gall-bladder was then freed up to its insertion with the ductus choledochus and was then tied off with a thick ligature and removed.

At the point where the ligature was applied, the ductus choledochus was intimately united to a lymphatic gland the size of a hazelnut and the incision had been carried directly through it. Another enlarged lymphatic gland was found closely united to the duodenum but it had to be left. The hilus was then plugged with tampons and the abdominal wall was closed with continued silk sutures. The gall-bladder measured 13½ centimeters long and 4½ centimeters thick. The wall in certain places was extremely thick and presented a caseous degeneration; microscopical examination proved that the walls were infiltrated with carcinomatous tissue and the glands had also become involved.

The patient recovered slowly and when allowed to leave the hospital five weeks later she felt in excellent condition. Palpation of the abdomen could not detect any tumor, nor could the enlarged lymphatic gland which had been left behind be felt. The ultimate outcome of this case is unknown, but the author believes that if he had operated immediately after the first appearance of the attack of colic, the metastasis of the carcinoma would have been prevented, while as the case then stood the patient must sooner or later die from the progress of lymphatic metastasis.

The second case operated on by Czerny was a woman of sixty years of age, who for about a year had been apparently suffering from catarrh of the stomach, and who had also had severe pains in the epigastrium more especially in the right. At no time had the patient vomited, nor was there any rise in temperature. The liver dulness began at the seventh rib, and reached in the axillary line to the costal border, and in the middle line 2½ fingerbreadths above the umbilicus; it then projected sharply to the left parasternal line at the level of the seventh rib. Within the boundary of the liver dulness a rather sharp but smooth edge of the liver could be felt, and in intimate connection with it at the outer edge of the rectus a tumor the size of an egg could be detected. This tumor was solid in consistency and its surface was smooth, and it could be distinctly made out as being unconnected from the edge of the liver. When the patient would take a deep inspiration both tumor and liver would be pressed down. Pressure on the growth only produced a moderate amount of pain. The diagnosis of chronic cholecystitis, perhaps malignant disease of the gall-bladder, was made.

The abdominal cavity was opened by an oblique incision in the hypochondrium; the gall-bladder was found to be thickened and after an aspirating needle had been introduced, a seropurulent liquid was withdrawn. An incision was then made into the bladder, and a number of calculi were removed. While attempting to dislodge a stone which was contained in the cystic duct, the tough and thickened wall of the bladder was torn. In the region of the cystic duct there were numerous adhesions with the duodenum, and a nodule the size of a hazelnut was found which could not be peeled out. The cystic duct was tied off and severed in front of this nodule after the surface of the gall-bladder, which was in relation to the under aspect of the liver to which it was adherent to about the extent of a dollar, had been separated with a knife from the parenchyma of the liver. The parenchyma which was removed at this time was about a centimeter in thickness. The opening of the cut surface of the cystic duct was closed by two sutures.

Sutures were introduced into the liver substance in order to close the raw surface, but as they cut through, all attempt to closing off the liver was given up and the cavity and raw surfaces of the liver were packed with iodoform gauze. The patient recovered nicely from the operation and was discharged at the end of two months, but it was learned that death occurred a few days later. The length of the extirpated gall-bladder measured ten centimeters and in breadth it was 5½ centimeters. Its walls, especially near the fundus, had become greatly thickened, and were studded with nodules and were very tough; microscopical examination did not demonstrate

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that this was clearly a case of carcinoma of the gall-bladder.

Heidenhain describes a case of carcinoma of the gall-bladder in a patient sixty-one years old, who had been suffering from cramp-like pains in the region of the stomach, and which shot up into the chest and became exceedingly severe in the back. By palpation the liver dulness was found to begin at the upper border of the fifth rib and extended as far as the mammillary line at the costal border. The lower pole of the gall-bladder, which was the size of a goose egg, was spherical, but one could detect a slight irregularity on its surface. Its outline could be made out fairly well. The movements of respiration imparted movements to both the liver and the tumor.

The abdomen was opened by longitudinal incision carried along the border of the rectus muscle and, after the adhesions with the omentum had been broken down, the enlarged gall-bladder along with the contiguous structures was drawn out through the incision. The fundus of the gall-bladder projected somewhat above the lower edge of the liver and calculi could be plainly felt in its cavity. As cholecystitis was supposed to be present, the bladder was opened for the purpose of removing the stones, but in doing this a necrotic growth the size of a walnut was found in the interior, so that the incision in the gall-bladder had to be closed with a continued catgut suture. The liver tissue which was lying in direct continuity with the gall-bladder was resected, because connective tissue changes had already taken place in it, and a wedge-shaped piece about 10 or 12 centimeters in size was removed by the thermocautery. At the point of section the liver appeared to be perfectly normal in color and consistency, and no secondary foci of disease were to be seen. The resection of the liver was accomplished without any hemorrhage, and only one small vessel had to be ligated.

The cystic duct was ligated and cut, and its end was closed by Lembert's sutures and a bit of the omentum was fastened over it. After this the adhesions with the parietal peritoneum and omentum were stitched together so that the abdominal cavity was in part walled off from the wound of the liver.

A calculus almost the size of a walnut was found lodged in the fundus of the gall-bladder, while a large number of smaller stones were found in the cavity of the organ. The carcinomatous growth had started from the mucosa of the fundus, and had from there extended to the liver. The patient was discharged in excellent condition at the end of October, there remaining only a small granulating wound. Two months later the patient was obliged to take to her bed, and examination showed nodular deposits of the growth in the liver.

Mr. Mayo Robson has four times operated for carcinoma of the gall-bladder, and secondary deposits of the growth in the liver. He did a cholecystectomy and resected the liver in these cases. A more detailed account of them will be found in Mr. Robson's recent book upon Surgery of the Gall-Bladder.

Marchand performed cholecystectomy for carcinoma of the gall-bladder in a woman sixty-four years old, and Socin has reported the following case. A woman sixty-three years old presented a tumor situated below the right costal border which had been present for about eighteen months. An abdominal incision showed that the tumor was the gall-bladder which had become extensively adherent to the liver, stomach and transverse colon. A resection of the colon was performed and then the tumor could be separated from the stomach. A calculus was present in the cystic duct and was removed by a longitudinal incision, and the duct was then closed with sutures. The gall-bladder was then separated from the liver by breaking down the adhesions binding it to it; the ductus was then cut and immediately closed with sutures. End to end anastomosis of the colon was done, and the gall-bladder removed. The patient recovered.

Ullmann has reported the following interesting case. The patient, who was fifty-four years old, had been complaining for about two weeks of pain in the right hypochondrium which she attributed to a cold. Examination showed that this side of the abdomen contained a very hard and irregular mass which was movable and was displaced by the movements of respiration. Everywhere above the tumor dulness on percussion corresponded to the liver dulness which began at the seventh rib, while downwards and to the left the dulness finally changed to a tympanic resonance.

A diagnosis of carcinoma of the liver, or possibly a malignant growth of the omentum extending to the liver, was made. The abdomen was opened by an oblique incision carried over the mass; the growth proved to be a much enlarged gall-bladder. The walls of the organ were very rigid, but by palpation liquid and calculi could be felt in the cavity of the organ. At the point where the gall-bladder was in contact with the liver, the parenchyma of the latter organ had become thickened and hard, and had apparently become infiltrated by the neoplasm of the gall-bladder, especially in the neighborhood of the hepatic duct; no other secondary deposit could be found in the liver, and it was therefore decided to do a cholecystectomy and resection of the liver.

The cystic duct was first ligated and severed and then the hepatic duct was treated, and the diseased portion of liver together with the gall-bladder were removed. Resection of the liver was begun with the knife, but on account of the severe hemorrhage which arose the operator resorted to the Paquelin cautery. As this did not control the hemorrhage, an attempt was made to catch up the bleeding vessels with hemostatic forceps, but this was also found useless, and compression and sutures were also found of no avail. The hemorrhage was finally controlled by closing the liver vertically to the direction of the vessels and then compressing it. Two long myoma

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needles were pushed through the folded liver and compression was produced by sterilized gauze.

In order to facilitate the execution of a hepatoduodenostomy the duodenum was sutured to the lower part of the wound and then the parietal peritoneum was stitched to the capsule of the liver, and tampons of iodoform gauze were packed in around the organ.

The gall-bladder when removed was found considerably enlarged and contained a large quantity of calculi; its walls revealed a typical carcinomatous infiltration. The carcinomatous nodule in the liver measured 11½ by 9 centimeters, the thickness of the portion removed being about 4 centimeters. The patient made such a good recovery that at the end of two months Ullmann contemplated performing hepatoduodenostomy, but he was obliged to give this up because a recurrence of the growth had taken place in the liver and the patient died six months after the operation had been performed.

Ziegler relates the case of a patient forty-seven years old who about three years before coming under observation had been suddenly attacked by cramps all over the body; these attacks of cramps occurred a few times and then did not reappear, and since this time menstruation had stopped. At no time was the patient jaundiced. About a month before seeing the patient she had discovered a hard point in the right upper region of the abdomen, which soon became quite painful. Examination showed that the liver was somewhat enlarged, and in direct connection with it a hard irregular tumor the size of a child's fist could be palpated and which was sensitive to pressure. During the movements of respiration the mass moved up and down with the liver and appeared to be intimately united to it. The diagnosis lay between cholelithiasis with an inflammation of the surrounding organs, or malignant neoplasm of the gall-bladder.

The liver was exposed by an oblique incision carried along the costal border. The gall-bladder was found transformed into a hard irregular tumor which had become closely united to the liver. A nodule the size of a pigeon's egg was found to the left of the gall-bladder which was very white and brilliant as it projected from the parenchyma of the liver in the under aspect of the organ. Other than this there was nothing abnormal in the liver and resection of this apparent malignant neoplasm of the organ was decided on. The cystic duct was ligated and cut, and then a wedge-shaped piece was resected with the thermo-cautery from the liver. A second and smaller nodule was also resected in the same manner. Hemorrhage was considerable and the wounds in the liver were plugged with iodoform gauze. Then the edges of the wounds were brought over the gauze by means of sutures. The gauze was brought out at the upper angle of the abdominal wound and then the remainder of the latter was closed. Microscopical examination of the liver growth showed it to be carcinoma. The gall-bladder contained four large stones, and its walls had undergone a carcinomatous transformation. The patient made a good recovery, but died about five months afterwards from an extensive recurrence of the neoplasm in the liver, cystic duct and neighboring lymphatic glands.

The number of cases published where resection of the liver for carcinoma, and where the gall-bladder has been found normal, are quite few indeed, and Bruns was probably the first who operated for carcinoma of the liver, although he only removed a small section of parenchyma for the purpose of diagnosis.

A very excellent result was obtained by Schrader, inasmuch as his patient was perfectly free from any recurrence of carcinoma of the liver seven years after resection of the organ had been performed. The patient was a woman about thirty years old. Examination revealed a very sensitive swelling protruding somewhat towards the lower part and situated in the right border of the liver, at a point normally occupied by the gall-bladder, and a diagnosis of gall-stones was made.

The abdomen was opened, and at the edge of the liver directly over the gall-bladder a carcinomatous nodule was discovered, being about 4 centimeters wide and 3½ centimeters thick, and caused the border of the liver to appear somewhat protruding. The mass in the parenchyma appeared to be quite limited from the surrounding liver tissue. The gall-bladder which was lying behind it was apparently normal. The growth was removed by means of a large wedge-shaped incision, and the wound was cauterized by means of a Paquelin. The *albuginea* of the liver was carefully united with the edges of the abdominal wound so that the wound in the liver became extra peritoneal. The remainder of the abdominal incision was closed, and the patient made an excellent recovery. The amount of secretion was limited and after about ten weeks the wound was almost completely covered by skin. This operation was performed in 1890 and the woman was found to be perfectly well in 1897.

A very similar case is reported by Luecke. The patient was a woman thirty-one years of age who for two years before the operation had suffered from her stomach, and of late had observed a swelling in the region of the stomach which soon began to give rise to considerable pain. On examination the growth appeared to be about the size of an apple and commenced two finger-breadths below the xiphoid process. Its lower border was sharply defined and it appeared to be globular; no pedicle could be felt; the growth was very movable and gave rise to dulness on percussion. A diagnosis of probable tumor of the liver was made.

When the abdomen was opened the left lobe of the liver was found to be about the size of a man's fist, and was connected with the remainder of the organ by a rather thick pedicle; this lobe was filled with a number of large carcinomatous nodules. The tumor had in part become united to the omentum, in which two enlarged lymphatic glands were discovered. The other abdominal organs appeared to be normal, and it was apparent

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that the carcinoma was limited to the left lobe of the liver. It was decided to remove this lobe and consequently, it was stitched to the abdominal incision and then the growth was surrounded by strips of iodoform gauze so as to isolate it from the peritoneum.

Severe hemorrhage resulting from laceration of the liver parenchyma was controlled by passing a rubber drainage tube through and tying off the mass, and this tube was later on replaced by tightly tied ligatures. A week after the operation the pedicle was severed with the thermocautery and at the same time the surface of the liver which was involved was carefully cauterized. The tumor proved to be a carcinoma of the liver. The patient was discharged cured and two years later she was still quite well and without any recurrence.

Jacobs reports the following case. A woman of fifty years of age had been suffering for several years with pains in the right side caused by the presence of a tumor, which on palpation was about the size of an orange and evidently located in the abdominal parietes. The pedicle appeared to be in some way connected with the peritoneum. An incision was made on the right in a line of the greatest length of the tumor, and it was found that the growth had become intimately connected with the surrounding structures. After breaking down adhesions, it was found that the neoplasm was attached to the liver at its lowest part. The growth was removed with the thermo-cautery, a drainage tube was inserted, and the abdominal incision closed. A small fistula remained at the site of the drainage tube for some time, and which gave issue to bile. Six months later a recurrence took place. Histologically the growth proved to be a carcinoma of the liver.

Segond has recorded the case of a large tumor filling the entire pelvis and it varied in consistency in different parts; it extended under the right costal border. The patient was thirty-four years old, and had suffered from severe hemorrhages from the uterus, so that a diagnosis of a fibroid which had in part degenerated had been made. This diagnosis appeared quite justifiable, as no connection with any other abdominal viscera could be ascertained either by examination or from the patient's history. At the operation, it was found that the entire growth was situated on the free border of the liver just above the gall-bladder, and was connected with the liver by a very thin pedicle about five cm. broad; it was nowhere adherent, and consequently could easily be removed. In other respects both the liver and gall-bladder appeared normal, likewise the other abdominal viscera. The patient did not rally and died three days after the operation. The neoplasm proved to be a carcinoma, the lower part of which was softened and degenerated, while the upper part was of a more scirrhous nature.

Roux successfully removed a pedunculated tumor of the liver from a woman aged fifty-four years; the position of the tumor corresponded quite exactly to the so-called processus linguiformis. The tumor communicated on one side with the gall-bladder, and on the other side had made an opening the size of a twenty-five-cent piece in the transverse colon which was situated behind the tumor. This part of the colon was resected along with the growth, and the opening into the intestine was closed by three layers of sutures. At the lower pole of the gall-bladder, where the tumor was adherent, a piece was also removed, and the opening in the gall-bladder was also closed by three layers of sutures, so that a normal sized organ remained. The gall-bladder as well as the growth contained some calculi. The pedicle was resected from the liver, and the rather extensive hemorrhage was controlled first with clamps and then with a double catgut suture.

Keen, Lins, Israel, Von Bardeleben, Müller, Tricomi, Groube, Schmidt, and many other operators have all recorded cases similar to those quoted above, but it would make this paper far too long if I were to give them here.

Of the difficulties with which the surgeon has to contend in operating on the liver, I would place first and foremost, hemorrhage from the hepatic parenchyma. The question of a proper incision in order to freely expose the tumor is also an important one for consideration, but I believe that in the vast majority of cases one carried along the border of the right rectus muscle will be quite sufficient for extirpation of the gall-bladder alone. An incision carried towards the median line will sometimes facilitate the operation, and in a few cases it may be necessary to resort to Czerny's incision which is made by making an incision in the linear alba and one perpendicular to this just below the umbilicus.

Where resection of the liver is to be done, a longitudinal incision will sometimes be sufficient, but when this is not the case another incision should be made parallel to the costal border, the length of it varying according to circumstances. On account of the complicated condition to which they give rise, I think that the incisions recommended by Micheli and Lannelongue are not to be particularly commended.

As to the control of hemorrhage from the hepatic parenchyma, I think that in many cases it may be avoided if the part is extirpated with the thermocautery with or without the previous application of ligatures in the liver substance. If there is much oozing the stump may be sutured to the abdominal incision and the wound packed with gauze. Other methods for stopping hemorrhage have also been recommended, such as packing the wound with iodoform gauze, or the use of Esmarch's rubber tube. Suture ligatures have also been favorably employed; they are inserted by blunt round needles in the form of chain sutures and by firm and gradual tension they completely close bleeding vessels. This method has of late been highly recommended by Auvray who experimented with this method on human livers removed as soon as possible after death. Langenbuch advised temporary ligation of the portal vein with or without a temporary ligature of the superior and inferior mesenteric artery, but as we

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have said in the vast majority of cases resection with the thermocautery will be found sufficient.

The question of the extra- or intraperitoneal treatment of the stump has given rise to much discussion, but personally we would recommend the latter. A comparatively limited number of cases of resection of the liver leaves this question, however, still in the state of study, and it will be only after many more cases have been recorded that we can draw a just conclusion as to this matter.

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THE SUSTAINING TREATMENT OF TYPHOID FEVER, WITH SPECIAL REFERENCE TO THE USE OF HYPNOTICS.

By A. H. BUCKMASTER, M. D.,
OF THE UNIVERSITY OF VIRGINIA.

AN orator may change the meaning of his speech by emphasis, and, if we dwell too much on one part of a plan of treatment and too little on another part, we convey a false impression. I think this has been done generally in the text-books. The importance of securing brain-rest in typhoid has not been sufficiently emphasized by writers and, therefore, it is much neglected by practitioners. It is the object of this brief paper to call attention to this omission and also to suggest a systematic plan of procedure.

The treatment of typhoid may be classified under four heads. Under the first are the various plans for the cure of the disease—the curative treatment. Under the second, the plan of treatment which carries the patient along until the forces of the body destroy the cause of the fever, or the poison proves too much for the patient and death results—the sustaining treatment. Under the third head is considered the treatment of the complications. Under the fourth head are the plans for the prevention of the spread of the disease—the prophylactic treatment.

The sustaining treatment, the only form to be considered in this sketch, is sometimes known as the expectant treatment, but I object to the term expectant, because it implies that we wait with folded hands for Nature to do all the work. While we must avoid meddlesome interference, the campaign against typhoid is an active one from the start. To obtain the best results, it must be carefully systematized. An excellent working plan is as follows: (1) Supply the body with material for giving heat, nourishment and energy; (2) put the body in such position that it will use these materials to the best advantage; (3) see that the waste materials are thrown off from the body. The whole of the sustaining treatment may be summed up broadly as follows: Look out for the input, the output, and save the waste. The process has been compared to a steam engine. We must supply it with oxygen, water and coal. We must regulate its workings so that it will not go too fast or too slow. We must see that the bearings are well oiled and dispose of the ashes. To some extent this comparison is applicable, but the laws applying to dead matter will not apply to living organisms.

The Input includes *food, water, air and sunlight.*

Food.—Milk and eggs constitute the mainstay for the typhoid-fever patient. They are complete foods, containing in themselves all that is necessary to support the patient for an indefinite period. A patient will take the whites of six or eight eggs in milk in the twenty-four hours and during the same time he should not take less than one quart of milk. When the milk is not well borne by the stomach we may give it by enema. First, gently wash out the rectum by throwing therein a warm normal salt-solution through a double current catheter. After this a rectal enema of cream, eggs, salt and water may be used. I have used the following formula for many years with great satisfaction: ℞ Well-beaten egg, one; beef peptonoids, one dram; cream, four drams; salt, five or ten grains; water sufficient to make two and a half ounces. This enema should be gently thrown into the rectum as high up as possible. There is the greatest difference in the result when one is gentle and passes it in slowly and when it is carelessly done. One nurse will use the enema without trouble, and another, on the same case, will report that the patient cannot retain it. This nutrient enema given every four hours will in itself sustain a patient for a long time. Theoretically, we should use the foods that are digested in the stomach where there is no ulceration. Practically, we can use any fluid food that will not cause fermentation or irritate the gut.

A common error in the administration of milk is to allow the patient to drink it as he would water. A result of the ingestion of a large quantity of milk taken at one time is the formation of a clot so large that it cannot be readily acted upon by the intestinal juices. A large indigestible bolus is the result. A good way to prevent such an occurrence is to feed the patient a tablespoonful at a time rather than to allow him to drink from a vessel or through a tube. The amount of food and the intervals must be a matter of study in the individual case. The rule is to give as much food as the patient can digest. The danger of giving too much is greater, particularly at the end of the second week, than too little, but we must not forget that patients are sometimes starved to death. Professor Armour had a homely, but convincing way of pointing out the danger of overfeeding. "If," he said, "the patient puts one egg into his stomach, and he can digest but one, he is the better by one egg; but if he takes two eggs and can digest but one, neither is digested and he has two rotten eggs in his stomach.

Water.—This is more important to the patient than food. He may get along with an insufficient amount of food, but he must have more

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water than when in health. A gallon of water in twenty-four hours, when the fever is high, is not a large allowance. If the patient cannot take this by the mouth, we must give him normal salt solution by the rectum. I am not sure that the good results obtained by the baths are not due, to some extent, to the amount of water absorbed. The amount of water taken by the patient should be measured, and if it is enough the hard, cracked tongue of the patient will rarely be seen.

Air.—This is the third substance mentioned under the heading input. Its importance has not been properly recognized. We know what it will do in tuberculosis and typhus fever and I do not think any one will oppose the open-air treatment in these diseases. I would like to move all severe cases of typhoid into the open air, with only enough shelter to screen them from the direct rays of the sun, the dew, and the severe winds. There is no danger of a patient with a high temperature taking cold. Of course, the body, under such circumstances, should be kept warm by hot-water bags and light, warm clothing. I am sure that such a plan, carried out with judgment, would lower the mortality a great deal.

Sunlight.—We do not know why sunlight is so necessary to man, but its banishment from the sick chamber, without good reason, is, to say the least, depressing. In this disease we need all the cheer we can obtain.

The Saving of Waste.—We must save the patient all unnecessary wear and tear. We must give him as little work to do as possible; rest for the body and rest for the mind. We must keep him quiet, making him use the bedpan and teaching him to avoid all sudden and jerky movements of the body. It is not desirable for him to lie constantly on the back, and he must cautiously turn on his side from time to time with the aid of the nurse. It is usual to secure rest for the body, but rest for the brain is often forgotten. In the condition known as *coma vigil*, the patient lies with eyes half open and muttering in a low voice. What is the brain doing during this time? If we may judge from the incoherent mutterings, it is flying from subject to subject and probably does an enormous amount of work in a short time. The patient is attempting to climb impossible heights and is falling into bottomless depths. Days and weeks are compressed into hours. It would take a pen more facile than that of Dickens to follow the mental wanderings of such a patient. The great writer attempted this in Martin Chuzzlewit and, although he gives us a wonderful picture, it falls far short of reality.

The man who relies on the report of a nurse to find out how much the patient has slept will often be deceived. If the patient does not call for some service, between the times for the administration of food or medicine, she dozes uneasily in her chair and reports the next morning that the patient was quiet; and yet a short period of such quietness will wear the patient out. He is not sleeping. His brain, instead of getting rest, is in a state of activity and unless the doctor or Nature changes the condition of affairs, the patient will die. We think much of the food the patient is taking; we think a great deal of the waste from high temperature; some of us are solicitous to give enough water, but how many men have the period of true sleep measured every twenty-four hours? Man bears the loss of food much better than the loss of sleep. I do not know of any attempt to find out how much rest is necessary.

This paper is a plea for the measurement of the period of true sleep in the twenty-four hours. If the patient will not sleep naturally he must be made to sleep by artificial means. The bath will produce sleep, but it does not last long. It is valuable in initiating the effect of a hypnotic which would be ineffectual without its aid. The hypnotic which has given me the best results is sulphonal. I believe that it is usually given in too small doses. One should commence with fifteen grains and if this is not effective, increase the dose to a dram in some cases. It usually takes about five hours to act thoroughly. Trional in ten-grain doses will do good work. Its effect is somewhat quicker than that of sulphonal; about three hours is the average time. Chloral is very useful. This drug went out of general use, because it occasioned several deaths, but the late Dr. Squibb told me that he felt quite sure the ill results were due to an impure article. From fifteen to forty grains will put the patient to sleep. These doses may seem large, but the need may be urgent. The patient should be watched after the administration of large doses of a hypnotic and, if the heart gets very weak, stimulants must be used. If the stimulant is given too soon, the effect of the hypnotic will be lost. This is a common mistake. If the time for the administration of stimulants, in the routine treatment, comes at the time sleep is looked for, it must be deferred. Of course if the arterial tension is very low, we may induce sleep by the use of a stimulant. The use of hypnotics is a matter of considerable skill. I do not believe that the bromides in small single doses are of any service. When I was substituting, many years ago, at the Brooklyn Hospital, it was the custom to give twenty or thirty grains of bromide of potassium as a sleeping-draught. The solution was kept in a gallon bottle. Being a little skeptical as to the efficacy of this medicine in the way it was used, I poured it out, without saying anything to the nurses, and substituted enough common salt to give the mixture a strong saline taste. I watched the night nurse's reports for several weeks after this and, comparing it with the reports of the weeks previous to the change, found that the salt solution was quite as efficacious as the bromide.

Morphine is a valuable hypnotic, but it locks up the secretions of the liver and at times nauseates the patient. Again, if the dose is too small,

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it stimulates and excites the patient, instead of calming him. If it is given by the needle, it makes trouble for the doctor, for a nurse should not be allowed to give a hypodermic injection as a routine of practice or at any time except in a case of emergency.

There is no question that careful management of the fever will aid materially in the saving of waste. A fever too long continued, if it is sufficiently high, will kill the patient, but I am inclined to believe, on clinical grounds, that we have been too meddlesome in the past. I have given up the use of all the coal-tar antipyretics. They depress too much. The safest way of reducing the temperature is the abstraction of heat by immersing the patient in a bath, which may be made as cold as it is consistent with comfort. The cold baths of Brand are brutal and, personally, I think I would rather be permitted to die than go through what I have seen patients suffer in their use. Again it is strange to learn how many nurses can tell you of patients that have died in, or immediately after, the baths, particularly in the case of children. The ice-cap and the abdominal coil are useful at times. The interesting experiment of Pasteur, who found he had to reduce the temperature of a fowl before he could inoculate it with anthrax, is something to set us thinking. I have no doubt that with increased knowledge, we shall be better able to judge when to interfere with temperature and when to let it alone. I confess that I do not feel much alarmed if the temperature goes up to 106° or 107° F., provided it does not stay there too long. Of course, the bath does a great deal in addition to the reduction of temperature, but I think we can get its best effects without torturing the patient.

After the second week, alcohol is of the greatest service. It must be given in the proper amount and this can be determined only by experiment. If the restlessness increases after its administration, if the odor is detected in the breath and if the pulse becomes accelerated, the amount must be decreased. If, on the other hand, there is improvement of these symptoms, it may be pushed until the condition of the patient is satisfactory and all this irrespective of the amount, which may vary from a few ounces to a few pints in the twenty-four hours.

When we can no longer use strychnine with good effect; when we wish a greater stimulating effect than can be obtained from alcohol, there is nothing that will give as good results as the intravenous injection of about a quart of the normal salt solution. I have seen the pulse drop from 135 to 98 in three hours after a transfusion of forty ounces. The patient, who before the injection had been rolling about in an uneasy way in the bed, settled down into a quiet sleep. Whether the dilution of the poison had anything to do with this result I do not know, but the effect was decided and very satisfactory.

The Output or Waste Material.—Waste material is thrown off by the bowels, the kidneys, the skin, and the lungs. We do not know how far one organ can act for another. The bowels may help the kidneys, but each organ must do a certain amount of work and all should be watched. It seems to me that the cases with two or three movements of the bowels each day do the best, and if a patient does not have at least one free movement in the twenty-four hours, laxatives or enemas should be used. An occasional dose of calomel is of great service. I have given up trying to secure aseptic stools and I am not sure that the food would be well digested if such a thing could be done. At the same time, we must not leave a lot of poisonous fluid material in a gut that is sluggish in its movement. Few do not recognize the futility of trying to sweep out the bacillus of Eberth from the intestines, for it is in the wall of the gut, in the blood, in the lymph-structures, in the spleen, in the bone marrow, etc. If there are more than two copious movements, a slight astringent—strong tea does very well—will usually afford relief. It is good practice to use a stimulant after the movements.

In regard to the work of the kidneys, it helps us to know the amount of urine passed. The trouble of collecting the urine is considerable and for this reason it is not done oftener. We must also know the character of the stools.

At least half the cases of typhoid at one time or another have albumin in their urine. This usually means that the blood-pressure is too low or that the intestine needs cleaning out. An increase of stimulant or an efficient dose of calomel will usually cause the albumin to disappear. If it persists under such conditions, we have reason to be apprehensive of organic changes in the renal epithelium.

If the skin is inactive, the use of a hot pack will be of service. In the first week it will sometimes bring out the eruption. I have seen brought out in this way a characteristic typhoid eruption that was as profuse as those we sometimes see in children. We do not see as much of the sudaminal eruption as formerly, because of the frequent bathing of the skin. If the patient takes enough water, the amount of urine will usually be sufficient.

The importance of the systematic investigation of the input, the output and the saving of waste cannot be overestimated. We are dealing with patients whose reflexes are often weakened to such an extent that they are far more helpless than a baby. In the first stages of the disease they are indifferent and apathetic; later on they become dull. At first they know, but do not care; then they do not know except under unusual conditions; at a later stage they do not know under any conditions. Such patients will remain with enormously dilated bladders without making any sign.

To sum up the sustaining treatment of typhoid fever:

(1) *No practitioner has done his duty who does not know at the end of each twenty-four hours that the patient has had enough food, water and fresh air.*

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(2) *No practitioner has done his duty who has allowed the patient to wear himself out by continued high temperature or by lack of sleep. The amount of sleep in the twenty-four hours should be recorded.*

(3) *No practitioner has done his duty who has not examined the urine frequently, and who has not posted himself daily as to the condition of the urine, the movements of the bowels and the condition of the skin.*

CLINICAL MEMORANDA.

COMPOUND DISLOCATION OF THE KNEE.

By WALTER LATHROP, M.D.,
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THIS injury is so infrequent that the following case is deemed worthy of reporting. In looking up literature on the subject I find the cases of *compound* dislocation very rare; in fact, text-books dismiss the subject with few words, although the American Text-book of Surgery states that "the dislocation is frequently compound." The severity of my case, however, could not bring it under the head of frequent. Of course, a forward or backward dislocation of the tibia, accompanied by a wound, no matter how small, would be compound; such may be comparatively frequent.

B. D., thirty years of age, while at work in the mines January 19th, saw a car off the track and went to assist those engaged in replacing it. To use his own words, "The end car was off the track, and I was by the side of car next to end, when the engine started the train, and the car was lifted up and fell over on me." It was some time before he was extracted. He was placed on train and brought to hospital as soon as possible.

Examination showed a bad fracture of the left femur at the condyles, while the right femur was protruding at the *under side of knee*, completely denuded of tissue, the condyles, and articular surfaces being stripped clean. Popliteal artery was ruptured. The wound of exit was not large, but the bone had been forced through by the enormous pressure of the loaded car, which pinned him against the props of the mine. Shock was severe, but after some time reaction was established; he was then anesthetized and I amputated the limb just above the seat of injury. He reacted well and is now doing nicely.

One year ago, I had a case of compound dislocation of the right humerus, the head being driven through the pectoral muscles, close to the clavicle. This was reduced and attempts were made to save the joint, but these resulted in an excision. The patient recovered and has a very useful arm.

Grip in Copenhagen.—There were 1,700 cases of influenza reported last week. Several deaths occurred from the disease. In general, however, the epidemic in Europe, is similar to that in this country, in that the disease is rather mild.

NASAL OBSTRUCTION; MOUTH BREATHING; CATARRH; DILATORS.

By NORBURNE B. JENKINS, M.D.,
of CHICAGO.

THE most common troubles which reduce the size of the nasal passages are cartilaginous growths, bony growths, deflections, deviation and deformity of the bones and cartilage forming the nasal cavities, hypertrophy and edema of the lining membrane of the nose, polypi, enlarged turbinated bodies, discharges from inflammation and disease of the nasal mucus membrane, stenosis, arrested development, atrophy, discharge from dead tissue, discharge from disease of the air-cavities or sinuses communicating with the nose.

The chief causes in the production and development of obstruction are as follows: Not using the nose in breathing, general hypertrophy, constitutional taint of disease, injuries from external violence, infection, irritation by such foreign bodies as dust, etc.

The upper air-passages warm, moisten and regulate, and free from foreign particles the air passing to the lungs. Any long-continued interference with this important function is followed by disease. If the volume, pressure or presence of air in the nose is not normal, growths, deflection and other diseases are invited and the nose may become closed. Arrested development, atrophy, hypertrophy, growths, polypi, stenosis, deflection and deformity, can and often do result simply from not using the nose in breathing.

Mouth-breathing quickly becomes a habit. Even after obstruction is removed, the nose may not be used in breathing and consequently becomes obstructed again. If the nose is temporarily stopped up, the mouth for the time, must be used in breathing. In these cases mouth-breathing may continue from habit, even after the nose is open.

The surgeon who is familiar with the anatomy and pathology of these parts finds little difficulty in relieving most obstructions, yet treatment of sinus diseases and necrosis often requires great patience and skill. The laity wisely call these "incurable catarrh." If there is long-standing, yellowish discharge, dead bone or disease of one or more of the numerous air-cavities or sinuses may be suspected. The discharge may come from one or both nostrils.

Diagnosis and treatment of disease in the sinus of the upper jaw-bone is comparatively simple. In the small accessory sinuses it is often difficult or almost impossible to locate the source of discharge, and, notwithstanding simple methods given in text-books for diagnosticating and treating, the operator may have the chagrin of finding, after weeks and months, that the discharge is not controlled, nor its source even located. These troubles are usually curable, therefore the more exasperating. The reader will find in the text-books information more definite and detailed.

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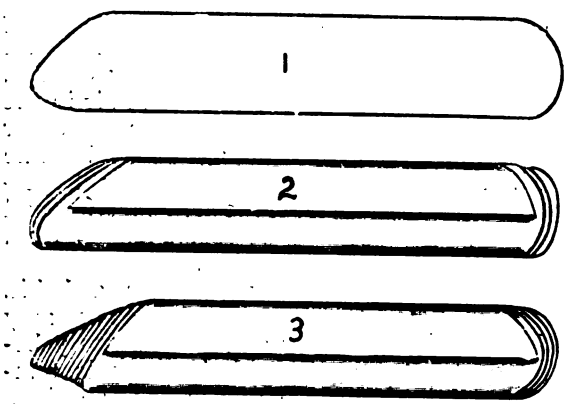
Many non-discharging obstructions may be treated with constant pressure. This is probably best made with folded writing-paper dilators, in size about one-half-inch by two or three inches. The illustrations are somewhat enlarged. At first the dilators should be the thickness of three or four sheets of paper. In many cases of occlusion and stenosis a dilator cut from best visiting-card board is easily introduced and useful. As the nose opens, thicker and later, wedge-shaped ones are used, thus conforming to the shape of the normal nose. The entire length of the dilator should rest on the floor of the nose, and it should be sufficiently far inside the nostril not to show.

Spray the nose with a two-per-cent. solution of cocaine, anoint the dilator with iodoform ointment or petrolatum and introduce with forceps. Remove after a day or two and replace with a new one. No harm has resulted from wearing a dilator a week without changing, but this is not recommended. Hasten slowly, use



Nasal Dilators.

thin ones first, and gradually and painlessly pass to thick ones. In occlusion and stenosis, a passage for the dilator must sometimes be made with a thin saw, and in such a case one size or another should always be in the nose until completely healed.

In case of trouble in introducing, the dilator may be made like a scabbard and put in place with any long, thin, springy instrument. The dilators are not often indicated in people past middle age. If the nose is sufficiently open, or has been made so by knife or dilator, and the patient breathes through the mouth, a bridle, described in the *Medical Record*, September 10th, 1898, may benefit, if worn during sleep. The bridle is a reminder to the patient and is not to lock the jaws. In many mouth-breathers, the muscles which hold the jaws closed may become atonic and may need the assistance of the bridle in overcoming the habit.

Diseases of the respiratory tract can not be successfully treated if there is persistent mouth-breathing. In some diseases of the ear the habit interferes with recovery. In treating disease of the air-passages too much dependence is placed on atomizers and insufflators and not enough on physical hygiene. Many stubborn cases of hypertrophic rhinitis, middle-ear catarrh, tonsillitis, "bad colds," and arrested development, may yield to hygienic measures without other treatment.

MEDICAL PROGRESS.

Every-day Headaches.—These may be considered, writes HUGH T. PATRICK (*Medicine*, Jan., 1901), due to infection and toxemia from fever, Bright's disease, constipation, etc., to neurasthenia, to migraine, to eye-strain, or to anemia. The obscure ones are the head pains of neurasthenia and migraine. The former is not a severe pain, but an intense distress or discomfort, a sense of pressure, or constriction, or expansion, of heaviness, lightness, fulness, or emptiness, or of a foreign body, solid or liquid, loose or fixed, within the cranium. Frequently there is a feeling of hindrance to mental effort. A pain located in points, lines, squares, circles, etc., is neurasthenic. Not infrequently there is a dull ache behind or over the eyes, and a sensation of bulging or pressure in the orbits not relieved by glasses. The headache may disappear during social intercourse or absorbing business, to reappear at the next opportunity for undisturbed self-contemplation. A headache which continues for months is pretty sure to be due to neurasthenia or to grave organic disease. The only cure is that for neurasthenia, but palliative treatment by strychnine, or 20- to 40-grain doses of bromide may be necessary. Migraine appears in distinct attacks separated by entirely free intervals, but during the attack the pain is constant and severe and usually prostrates the patient. It is deep-seated, although the scalp may be tender. It is usually hereditary and begins before the twentieth year. The attacks last from six to thirty-six hours and occur at first two or three times a year; later as often as twice a week. Nausea or vomiting is rather frequent; there is often a definite prodrome, and during the attack sleep is impossible. An attack may be precipitated by pain, loss of sleep, mental strain, etc. Women not infrequently lose the affliction after the menopause and men after the age of sixty. The author's treatment consists in the administration of fluid extract of cannabis indica, three drops after each meal, increased rapidly to the physiological limit and kept there. If this fails, try bromide or nitroglycerin, or a mixture of sodium salicylate, sodium bromide and aconitine.

Retropharyngeal Abscess.—Though rare, writes IRVING M. SNOW (*Arch. of Pediatrics*, Jan., 1901), this is one of the grave affections of infancy, and is commonly treated as pharyngitis or croup. The baby will attempt to nurse and

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will quickly drop the nipple and cry; or it will refuse all nourishment. If the abscess is in the upper pharynx the cry is nasal, the breathing snoring and snuffling, and the child sleeps with the mouth open. If at the level of epiglottis or larynx, there is hoarseness, stertorous breathing, and attacks of choking or cyanosis, all symptoms are aggravated in the recumbent position. Usually the neck is swollen, the cervical or submaxillary lymph-nodes enlarged, with fever and constitutional disturbance. With such symptoms the throat should be palpated, and no time should be lost in evacuating the abscess.

Bacteriology of Gastro-enteritis in Infants.—The importance of bacterial studies in disorders of the gastro-intestinal canal in infants is so universally recognized that this was a question of the day at the recent Congress in Paris. Among those who participated in the discussions none has contributed more to the subject than ESCHERICH of Graz. Summarizing his results of extended studies in this direction in a short paper (*Arch. de Méd. des Enfants,* Dec., 1900) Escherich reaches the following conclusions. (1) The use of Weigert's fibrin stain and fuchsin with feces gives useful results, enabling one to differentiate the bacteria found in the stools of breast-fed children, and the colon bacillus which decolorizes by Gram. The inoculation of ordinary alkaline media (agar and gelatin in plates) succeeds only to a limited extent in demonstrating the bacteria observed in cover-slip preparations. By employing certain acid media it has been observed that the normal intestinal flora is still greater than had hitherto been suspected. The use of the Grüber-Widal reaction enables the differentiation of closely-allied forms of the colon group found in the alimentary canal. (2) The normal intestinal flora is the expression of the conditions of the normal function of the intestine. (3) The bacterial flora, under normal conditions is independent, in a large measure, of the variety and number of bacteria introduced with the food. At all events, small disturbances in the chemistry of the intestine, of secretion and absorption, of the general health and powers of resistance, affect the bacterial flora very markedly. (4) For many reasons it may be assumed that the introduction and multiplication of any micro-organism not common to the normal flora may induce morbid changes. This may occur through unusual ways of decomposition resulting in the formation of poisonous substances. (5) At the present time there exists no satisfactory classification of the gastro-enterides of infants. From a bacterial standpoint three types of infection are recognized: (*a*) Intoxications through ectogenous decomposition; (*b*) infection of the chyme; (*c*) infection of the intestine. (6) The number and kind of bacteria present are important factors in the pathogenesis of these infections. (7) The belief that the death-rate from gastro-enterides progressively diminishes in infancy as age advances is not in accordance with the author's personal and very extensive experience.

Post-Operative Ventral Hernia. — B. B. EADES (*Annals of Surgery,* Jan., 1901) says that at least fifteen per cent. of all laparotomies are productive of herniæ after a lapse of five years. Many surgeons fail to see these results in their own cases, because so many patients seek the aid of other operators for these unfortunate outcomes. Hitherto only the physiology of the parietes, but now the anatomy also has necessarily to be considered, because it alone will aid in the reconstruction of the walls so as to prevent hernia immediately and remotely. He recommends that the incision through the skin and fascia should be at an angle to the direction of the muscle fibers and nerves, as great as possible. Only innervated muscle will functionate and prevent visceral protrusion, hence the greatest possible respect must be had for the nerve and the muscle and sharp division of either or both avoided to the last moment. The general rules for the parietal cut he formulates as follows: (1) Length depends upon the thickness of the superficial fascia, always enough to give wide access to the muscles; (2) relatively greater length when separation, not division, of the muscle fiber is to be done; (3) always proportional to the suspected pathological conditions; (4) with view to rapidity, dexterity and precision of deep field work; (5) long incisions in the skin and fascia do not predispose to hernia; (6) lessen the mortality by increasing space for protecting the surrounding viscera; (7) decrease shock by shortening the time. For appendicitis he transposes the intramuscular incision of McBurney downward, so that it is centered on a line joining the anterior superior iliac spines and from one to one and a half inches internal to the right This almost invariably brings into view the iliohypogastric and ilio-inguinal nerves, so that they may be protected and spared, and also opens the parieties just below the pouch of the cecum.

Hemorrhoids.—The treatment of these very common and vexatious conditions, says QUENU (*Gazette de Gynecol.,* Jan. 1, 1901), depends largely upon the causes and degree of the disease. Dilatation of the anus tends to restore the venous circulation and to obviate some of the complications which are associated with really descended piles. For the actual destruction of these venous tumors one may employ any of the well-known radical procedures, clamp and cautery, ligature, galvanism, bistoury or scissors. For a slower removal of them various means are employed at the periphery and at the center of the tumor, such as painting the surface, cauterizing, electrolysis, and interstitial injections. Normal living and regulation of defecation are important. Daily baths or at least local washing of the ano-rectal skin and mucosa are splendid preventives of infection and abscess. In the presence of the actual piles cold or very hot (40° to 45° C.) applications and irrigations, also hot sitting-baths with or without astringents added, like sulphate of zinc, alum, tannin, etc., suppositories of these or of subnitrate of bismuth, or galvano-electric stimulation or cauterization are very good. Inflammation

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demands cold, heat, poultices, exhibition of calomel, ointment with morphine or cocaine and, finally, the knife, if these means fail. Since mere dilatation does not prevent recurrences and may promote prolapse, to-day radical cure is preferred. Hartmann in the absence of inflammation removes them through a flap-formation, uniting the edges with fine silk afterward, in the presence of inflammation he omits the suture, packs the rectum with gauze to appose the cut surfaces and finds cure present in about seven days as a rule. Quénu and Hartmann have modified the Whitehead operation as follows: The anus is circumscribed with an incision at the mucocutaneous juncture for half of its extent, the mucosa with the piles adherent is dissected free and everted upon the finger; the piles are now ablated, the bleeding is checked, and then packing of the rectum to hold the flap in place finishes the procedure, after the other half has been similarly treated. The typical Whitehead operation is necessary when the mucosa is much altered. All operations must be preceded by moderate dilatation of the anus.

Abdominal Hysterectomy.—G. NANU (*La Gynecol.*, Dec. 15, 1900) gives the following leading points for this operation: A 45° Trendelenburg position from beginning to end, until the parietal suture begins; a large retractor held at the lower limit of the wound by an assistant standing between the feet of the patient, who shifts it from side to side, always over the point of operation; systematic abandoning of the hemostatic forceps on large vessels, ligating at once instead; ligation of the hypogastric arteries. The foregoing points assist in rapidity and the following in asepsis: Abandonment of all chemical disinfectants, using only heat for sterilizing; careful walling-off of the peritoneum; reconstruction of the peritoneal layer on the pelvic floor; all ligatures of catgut; all sutures of the same substance, except at the skin, where silkworm gut is used. As to the comparison between this and the vaginal route, he thinks the abdominal the more truly surgical, because it is rapid, free and complete in its work.

Removal of the Seminal Vesicles.—H. H. YOUNG (*Archiv. f. klin. Chirurgie*, B. 62, H. 3) states that of all the avenues of approach to these organs usually adopted the three mentioned as best are the perineal, inguinal and sacral. The sacral route is the most advantageous to the surgeon for view, but is difficult and prolongs the operation considerably. A new route is suggested by the author, the suprapubic, and has the following technic: A median incision is made from umbilicus to symphysis. If this does not give sufficient exposure there may be made an adjunct incision vertical to it either through the recti abdominis muscles just above the symphysis or better through the linea semilunaris just above the umbilicus. The second-named site for this additional cut is by far the better, because it does not injure muscle fibers, gives no paralysis and much less tendency to hernia. The deep field is extraperitoneal if possible. The bladder is freed from its bed and drawn upward and forward over the symphysis and held. With it comes the prostrate and the seminal vesicles. These are then dissected free of their attachments and with them the ampulla and course of the vasa deferentia. If castration has been done, the whole vas and vescicle of that side can be removed. The advantages of this method are completeness, comparative rapidity, directness and the safety of any ordinary laparotomy.

THERAPEUTIC HINTS.

Hot Air Treatment.—The apparatus used at the Royal Victoria Hospital, write C. F. MARTIN and B. D. GILLIES (*Montreal Medical Journal*, Dec., 1900) consists of a copper cylinder large enough to admit an extremity, the pelvis, or the whole trunk, and with a thermometer and valves to allow the air to circulate. The part to be treated is wrapped in flannel, is placed on an asbestos cushion in the cylinder, and rubber sheeting is wrapped about it. The temperature is gradually raised from 180° to 260° F., then rapidly to 280° or 300° F. or more. The patient drinks freely of water. In the cases of gonorrheal arthritis the pain was relieved, the mobility increased, the effusion absorbed, and walking rendered more quickly possible than by any other means tried. This was the result in other painful effusions and acute or subacute joint affections, while in arthritis deformans and chronic rheumatism the effects were less lasting. Besides joint affections, cases of peripheral neuritis, local neuralgias, and sciatica (29 cases) were relieved with astonishing rapidity.

Fatty Heart.—In ordinary cases, writes W. H. BROADBENT, the food should be liberal and varied, precautions being taken against inordinate or injudicious eating. It is best to have someone who understands the likes and dislikes of the patient determine what dishes and what quantity will be good, acting under the physician's advice. Proper regulation of the bowels is of the utmost importance. The quantity of feces which may unconsciously accumulate in the bowels of old people in spite of a daily slight evacuation is astonishing. Such may induce complete prostration, which may last for months, or result in fatal syncope; or there may be cerebral symptoms, and complete loss of memory, with childishness and torpor. To regulate the bowels mild alœtic aperients are best, with pil-hydrarg. and colocynth occasionally if there is arterial tension. Any tendency to flatulent distension of the stomach must be counteracted by careful dieting, and by alkalies and carminatives. Bitter tonics, massage and gentle exercise are often of great service. Extremes of heat and cold should be avoided, and a dry healthy country spot selected for residence.—*Heart Disease.*

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SATURDAY, FEBRUARY 23, 1901.

INHUMANITY AND THE HUMANE ASSOCIATION.

NOWHERE is one so forcibly reminded of Landseer's famous picture of "Dignity and Impudence" as when the human traits that the picture caricatures are portrayed in some calm, large-minded scientific man, and a cocky, self-sufficient gentleman with a chip on his shoulder.

From advance sheets of the *Journal of the American Medical Association,* we read with interest and amusement a discussion in which Dr. W. W. Keen calmly lays down the law to the president of the American Humane Association in this gentleman's own terms. The trouble is *apropos* of the Bill for the Regulation of Vivisection, and the text is Dr. Keen's published statement to Senator Gallagher that in a pamphlet issued by this Association the experiments quoted were "many of them so vague and indefinite that he could not look them up," and that some of those he did find were "garbled and inaccurate."

We grieve to say that the worthy president of what was supposed to be a respectable society feels it his duty to "probe and investigate this charge to the fullest extent," and incidentally hints that Dr. Keen's remarks are "not quite in accordance with the highest ideals of truth," and concludes his remarks by intimating that there is need of enlightenment "if the medical profession of this country is ignorant of what has been done by men without pity and without conscience." To all of which Dr. Keen, from whom he has pompously demanded proof, furnishes what he asks.

The Humane Association had caused to be distributed from house to house in Washington, prior to the reading of the Bill, a pamphlet in which were reported a number of experiments, fourteen of which were drawn from newspaper stories. Dr. Keen points out that five of these cannot be consulted for lack of date, and adds that in no case would he be willing to admit a newspaper paragraph as a sufficient authority for a grave charge against an individual or the profession. He then quotes six other "vague and indefinite" references, not to newspapers, in which dates are omitted or incorrectly given, so that there is no possibility of verifying them.

As to Dr. Keen's defence of his words that "some of the statements were garbled and inaccurate," which so rankle the humane gentlemen, he gives a series of cases in the pamphlet in which it is reported that doses of thyroid gland were administered to insane patients—and the patient died. No mention is made of the actual cause of death which were given in every case in the official report from which these "garbled" sentences are taken, neither is there any mention of the cases that were greatly improved. In the same way, Dr. Keen supplies the omissions which his opponent sarcastically demands by stating that in five experiments of lumbar puncture made by Dr. Wentworth, the pamphlet simply records the fact that a lumbar puncture was made and the patient died a certain number of days afterward. The omissions are Dr. Wentworth's express statement that "no reaction on the part of the patient attended the operations," and that autopsy showed the cause of death to be "inflammation of the brain," "galloping consumption," "double pneumonia," etc.

In reporting on Sanarelli's experiments in the inoculation of yellow fever, the account is "garbled" by inserting in the symptoms the word "final," *i. e.,* "jaundice, delirium and *the final collapse,*" which does not occur in the original. The last three words are italicized in the Humane Association's report, leaving the impression that the patients died, whereas Sanarelli states *that not one of them died.* Notwithstanding Sanarelli's statement, which the compiler of the report must have read, he quotes from the *Boston Transcript,* "It is understood that some, if not all of the persons

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inoculated died of the disease," and the words "scientific assassination," "death" and "murder" are freely quoted.

The "garbling" of a translation of Schreiber's inoculation of a boy with tuberculin, which in reality was for the sake of early diagnosis, is shameful, it being insinuated that the physician did it simply to see whether the boy could be inoculated with the disease. The physician's final report is: "I could discover no other alterations in the otherwise apparently healthy boy." It is rendered "I cannot yet say whether the boy will be consumptive in consequence of my treatment."

The confident tone of outraged humanity with which Dr. Keen was called upon to deny the profession's responsibility, if he dared, will, we hope, assume something like apology when the gentleman finds out what manner of man he has been calling out to battle. For it is not a fight over calling names, but the same fight for humanity against a sentimentality and scandalous misrepresentation that vaccination, anesthesia, antitoxin and every great discovery in medicine have had to make.

MALARIAL PROPHYLAXIS IN NEW YORK.

WE reviewed in these columns in a recent issue, January 12th, the interesting chapter of the evolution of the theory that the mosquito carries malaria. This subject has been brought so much to the notice of the profession during this last year or two that now a headline reference to it is apt to be greeted by a yawn. Outside the tropics medical men are prone to think that it is of passing, even surpassing, interest because of the original wondrous intuition of the theory and the ingenious demonstration of it from so many sources, but practical importance it can have none except in distinctly malarial countries. It is forgotten, for instance, that there is and has always been a distinct mortality from malaria in and around New York City. This has decreased very much in recent years, but has not disappeared. One reason for the decrease has been the evolution of exacter diagnosis. This factor will undoubtedly still further lessen the number of malaria cases in the city during the next few years. No diagnosis of malaria should be made unless the parasites have actually been seen in the patient's blood.

The second factor in the decrease of New York's malaria is the gradual obliteration of suitable breeding-grounds for the mosquito. In this line there remain opportunities for the further reduction of malarial mortality and morbidity in the neighborhood of the city. At the last meeting of the American Medical Association two observers recorded the finding of the *Anopheles* mosquito in our Northern States during the winter. In Boston during December and January, in Philadelphia during November and February, specimens of the malaria-bearing mosquito were found. The insects were observed in barns and outhouses, never far from some abundant water-supply and usually in the neighborhood of some animal, a dog or a horse or cow. In Italy attention has been called to the fact that mosquitoes hibernate. Only the impregnated females survive the winter it is said.

At the recent meeting of the Section on Medicine of the New York Academy of Medicine Dr. W. N. Berkeley called attention to two interesting sets of facts. First, the conveyance of malaria from person to person in New York and, second, the regulations that would greatly facilitate the ultimate extermination of the disease. The *Anopheles* mosquito Dr. Berkeley has found in most of New York's suburbs. Visitors even only for a day or two to these suburbs, who happen to be stung by the insects, not infrequently contract the disease and it has been possible to trace the exact length of the incubation period of malaria by knowing the date of the suburban visit.

So long as the present system of extending the streets of New York continues we cannot hope for absolute freedom from malaria. Streets are raised to grade by the city and owners are left to fill in their property at their convenience usually years afterward. This leaves stagnant ponds of water that make ideally favorable breeding-places for the *Anopheles*. Until these low-lying vacant lots and all other standing puddles of water can be filled up and drained, it is almost hopeless to expect a reduction in the number of mosquitoes. Where the mosquitoes are, malaria will be distributed, if a single case of the disease finds its way to the neighborhood.

In the country places around New York City much can be done by at once protecting all malaria patients from being stung by mosquitoes. *Anopheles* to convey malaria must be freshly reinfected every spring. In the spring especially relapses of old malaria occur. From these relapsing cases the mosquitoes get their supply of infective material. If malaria patients are protected from mosquitoes, by no means an impossible precaution, as has been shown in

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Italy where the insect pests are much more abundant than in this country, there will not be any distribution of the disease beyond its original focus. There is absolutely no other intermediary for the conveyance of malaria from man to man except the *Anopheles* mosquito.

If, in addition to this, all standing water is either drained off or kept covered during the spring by a thick layer of crude petroleum, then the opportunities for the spread of malaria are minimized and cases of the disease must become infrequent. If these two measures, the shutting in of malaria patients and the drainage of stagnant water were instituted by legal regulation, just as is the quarantine of other contagious diseases and the abatement of nuisances, we would soon hear the last of malaria around New York. As it is, the public should be educated up to our present knowledge of the status of malaria as a mosquito disease. A set of instructions printed with the authority of the health boards of our Northern cities and distributed among dwellers in suburbs where malaria still occurs, would undoubtedly lead to a better enforcement of the simple precautions necessary to prevent the spread of the disease. For us even more than tropical countries the mosquito-theory of malaria is of practical importance. To neglect its obvious lessons is to miss valuable opportunities for the decrease of human suffering.

DISINFECTION OF THE HANDS.

OF late there has been an unusual degree of interest in the study of different methods of disinfection of the hands. The importance of such disinfection is now thoroughly recognized, and laboratory and other means of determining the best methods of disinfection have been greatly multiplied since the days when Lord Lister introduced antiseptic surgery. There has been a tendency to insist more and more upon the importance of mechanical disinfection of the hands, as compared with the chemical disinfection which was formerly considered most important. Schleich of Berlin has been particularly impressed with the importance of such mechanical disinfection and he has recorded some very satisfactory results.

Among several careful experimental studies which have been recently undertaken to try to solve this important question, that of Krönig and Blumberg (*Beiträge zur Händedesinfektion,* Leipzig, Georgi, 1900), deserves careful reading. These writers have carried out an extensive series of experiments in which they have inoculated over eight hundred mice, besides making numerous culture tests. Because of the dangers of infection with the anthrax bacillus, which is so resistant to ordinary means of sterilization, they used the skin of cadavers for experimental purposes, rubbing the bacilli into the skin, allowing it to dry for a considerable length of time and then carrying out the various methods of disinfection. After purely mechanical disinfection of the skin by means of soap and water applied with a brush and marble-dust, as recommended by Schleich, they cut out bits of skin by means of sterilized scissors and forceps and inserted these bits into subcutaneous pockets in the skin of mice. By this method of disinfection the skin was so thoroughly freed of germs that only a few of the animals died of infection. However, the method was by no means perfect. Cultures on agar plates also showed colonies of anthrax in a number of cases. They next tried the use of tincture of soap and alcohol, as first recommended by Reinicke, a method which has been widely used by German surgeons and is particularly favored by Mikulicz. This may be considered the next step toward chemical disinfection. The results were very much the same as with the soap, water, brush and marble-dust method, experiments both by inoculation of mice and cultural experiments showing that we can only partially free the skin of germs by mechanical means even if combined with alcohol.

As previous investigations had shown that these methods were not effectual, Krönig and Blumberg did not carry out an extensive series of experiments with this method. Further experiments were carried out, using mechanical disinfection in combination with chemical disinfection by a mixture of permanganate of potassium with common salt, thus setting free chlorine, which acts as a powerful disinfectant in the nascent state. The results by this method were decidedly more satisfactory, and the writers conclude that the combination of chemical disinfection with mechanical disinfection is decidedly to be preferred, though they believe that the thorough mechanical disinfection of recent times is a decided advance.

Although it can thus be shown experimentally that disinfection of the hands is possible, there can be no question that in some cases any of the ordinary methods which have been used are not effectual, either because not carefully carried out or from the condition of the hands of the surgeon

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at the time. There is always the possibility that in certain cases, through hurry or neglect, the ordinary methods will not prove absolutely certain. These experiments and others only show that in order to be sure that we are not carrying infection into a wound we must cover the hands with some impermeable material. Whether this can be best accomplished by the use of rubber gloves, which are now most extensively used, by the use of leather gloves permeated with some substance preventing skin bacteria from passing through, as recommended by Wölfler of Prag, or by covering the hands with chirol or some other form of shellac, remains to be shown by further trial. All of these methods blunt the touch and hinder skilful manipulation in some degree, but the assurance of perfect asepsis makes it well worth while to put up with some disadvantages.

ECHOES AND NEWS.

NEW YORK.

Appointment of Dr. Marston.—Dr. Daniel W. Marston has been appointed Visiting Surgeon to the Randall's Island Hospitals, by the Department of Public Charities.

Gift to Yale Medical College.—One hundred thousand dollars was recently given to Yale University to construct a building for the medical school. The donor's name was not made public.

Influenza Epidemic.—The reports from the Marine Hospital Service indicate that influenza has been epidemic over the entire United States. The Western States were apparently invaded at about the same time as those of the East. The disease first made its appearance in most States in December, has been mild in character, for the most part, and has declined somewhat under the influence of the cold weather.

Diamonds for a Diploma.—In the exchange column of an evening paper there appeared, a few days ago, the advertisement of one who was willing to exchange diamonds for a medical diploma from a well-known college. The only stipulation was that the original owner must be deceased. It would be interesting to know how many were offered, and whether he gave up his precious stones for a sheepskin prepared especially for him by some smarter swindler.

Anti-Christian Science Bill.—The Assembly Public Health Committee will report for amendment and recommitment Assemblyman Bell's Anti-Christian Science Bill this week. The bill will be amended so as to affect only faith curists, and make all persons who pretend to be healers and cure the sick and injured pass an examination before the State Board of Regents, showing their competency in caring for the sick, and their knowledge of disease, by requiring practical diagnosis.

Lectures on Protozoa.—In the lectures on Protozoa to be given by Dr. Gary N. Calkins, that to be delivered on March 1st will be of special interest to physicians. In it the more common disease-producing parasites are to be considered. Gregarines and Diseases of the Earth Worm; Coccidia and Liver Diseases of the Rabbit; Myxosporidia and Trout Epidemics; the Relations of Mosquitoes to Malaria, and Remedies are the subtitles to be discussed by the lecturer. The lecture will be held at 5 p. m. in Schermerhorn Hall, Columbia University.

Mothers' and Babies' Hospital.—At a meeting ing of directors and friends of the Mothers' and Babies' Hospital, Lexington Avenue and Fifty-second Street, on Thursday, it will be decided whether or not that institution is to be continued. It has been supported for eighteen years upon voluntary contributions, requiring yearly a guarantee fund of $10,000 for its maintenance. This, the governing board, it is said, has had some difficulty in securing for several years past, but it is understood that the guarantee has been raised for this year, and that means have been provided for the institution's yearly expenses in the future.

Academy of Medicine.—A meeting of the Section on Laryngology and Rhinology will be held Wednesday evening, February 27th. The following is the program: (1) Exhibition of Specimens and New Instruments. (2) Presentation of Cases. (3) Paper: "A Remarkable Case of Glosso-Pharyngo-Labial Paralysis," by Wolff Freudenthal, M.D. (4) Paper: "A Combined Intra- and Extra-Nasal Operation for the Correction of a Congenital Concave Vertical and Lateral Deformity of the Nose; with Report of a Case," by B. S. Booth, M.D.

The Section on Obstetrics and Gynecology will meet Thursday evening, February 28th. After the scientific session the election of officers for the year will be held.

PHILADELPHIA.

Neurological Society.—Officers for the ensuing year are: President, Dr. James Tyson; Vice-Presidents, Drs. C. S. Potts and F. X. Dercum; Secretary, Dr. A. A. Eshner; Treasurer, Dr. G. Hinsdale.

Army Commissions for Pennsylvania Physicians.—The following appointments to the regular army have been made: Dr. R. H. Zanner, of Norristown, Surgeon with rank of Major; Dr. J. S. Kennedy, of Chambersburg, and Drs. I. E. Bennett, H. H. Kiersted, and F. S. Dale, of Philadelphia, Assistant Surgeons.

Children's Hospital of Germantown.—The medical staff of this institution will in the future be composed entirely of homeopathists. The Board of Managers placed the names of several homeopaths on the list of visiting physicians. The

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regular members thereupon resigned and their places were filled by the appointment of homeopaths.

Brains Bequeathed for Scientific Study.—The recent appeal of Dr. Spitzka of New York recalls the fact that some twelve years ago a small number of eminent Philadelphia medical men made an agreement to bequeath their brains to their survivors for scientific study. Among these were the late Drs. Pepper, Leidy, Allen and Wormley. The brains of at least two of this number are now in the Wistar Museum.

Pennsylvania Hospital for the Insane.—Dr. A. R. Moulton reports a case of rupture of the rectum with hernia of the intestine. The patient was a man of thirty-four years who had several years ago manually produced a rectal prolapse. In November, 1900, the rectum ruptured and two feet of small intestine and mesentery protruded. Shock was profound, death following in thirty-six hours.

A stated meeting of this Society will be held on Monday, February 25, 1901. Dr. Wm. H. Teller and Dr. F. X. Dercum will exhibit "A Case of Astereognosis," and Dr. George L. Walton and Dr. Walter E. Paul of Boston, will, by invitation, read a paper entitled "Astereognosis: with Illustrative Cases." At the close of the meeting a reception will be tendered Dr. Walton and Dr. Paul at the University Club. Members and others are cordially invited.

Dr. Cabot in Philadelphia.—Dr. Richard C. Cabot of Boston visited this city last week and addressed the Stillé and University Medical societies at the University of Pennsylvania on Thursday and Friday evenings. Dr. Cabot's subject at the latter meeting was the percentage of failures in diagnosing valvular lesions of the heart as shown by clinical diagnoses and the results of autopsies. The subject was discussed by Drs. Musser, Tyson, Hare, Stengel, Edsall and others.

International Congress of Nurses.—Miss Maud Baufield, of the Polyclinic Hospital, who has labored very earnestly for the organization of nurses, is to be the Secretary of the Congress which meets at Buffalo during the Exposition. The speakers at the meeting will include, besides the representatives of various American societies, Mrs. Strong of the Royal Infirmary, Glasgow; Mrs. Huxly, of Dublin; Miss Florence Nightingale and Mrs. Bedford Fenwick of London.

Hasty Embalming.—The Coroner's inquest upon the body of a man found dead in the street February 15 developed the fact that a full autopsy by the coroner's physician was impossible because the body had been embalmed before the physician reached the place. This is the third case within two weeks in which the investigation of the coroner has been complicated by too hasty embalming. A bill to prevent the embalming of bodies by undertakers before they have been authorized by the proper parties is now before the legislature.

Treatment of Tuberculous Glands of Neck with Minimal Scarring.—Dr. G. Betton Massey uses a method which instead of the unsightly scars left by cutting operations leaves only points of scar tissue. A small opening is made in the skin over the affected gland and the tissues slightly cauterized with an electrode to keep the opening patulous. At intervals of a few days a gold electrode fully amalgamated with mercury is introduced and a current of two to ten milliamperes is passed for ten minutes. It is claimed that the tubercle bacilli are destroyed by the liberation of nascent oxychloride of mercury. Two cases of cure are reported. The sinus allows drainage of the waste products and afterward closes with but a point of scar tissue.

Diagnosis of Pancreatic Disease.—At the Pathological Society February 14th Dr. D. L. Edsall spoke of the diagnosis of pancreatic disease by the estimation of the urinary sulphates and of the fecal fat. Two cases were cited as illustrations. In one, a man of thirty-six years, there were gastric symptoms and jaundice together with other symptoms suggesting pancreatic disease. An estimation of the urinary sulphate showed the ethereal to be less than half the usual amount, the ratio between ethereal and preformed being 1 to 29 and 1 to 20 on different days instead of 1 to 10, the normal. Autopsy showed carcinoma of the head of the pancreas. Case second, a woman of forty-eight years showed an increase of the ethereal sulphates the ratio being 1 to 7.4 and 1 to 8.5. The woman recovered having apparently had an attack of catarrhal jaundice. Dr. Edsall believes that the study of the ethereal sulphates is of value in cases of suspected pancreatic disease, a positive result being relatively of more value than a negative one. In regard to the fecal fat there is a rather prevalent idea that fat in the stools means pancreatic disease. This is an erroneous belief, as there is fat in normal stools. The importance of icterus in connection with fat in the stools was emphasized. In the second case referred to there was a large amount of fat in the stools. The conclusion reached is that fat in the stools is not of much value in proving the existence of pancreatic disease. Indicanuria is not considered of diagnostic value in any disease.

CHICAGO.

Will of Albert A. Munger.—According to the will of the late Mr. Munger, the following institutions are beneficiaries. Fifty thousand dollars will be divided among them: Woman's and Children's Hospital, the Chicago Foundlings' Home, the Chicago Nursery and Half Orphan Asylum, and the Home for Incurables.

Colony for Epileptics.—The scheme of a State colony for epileptics at Grand de Tour in Ogle County has been put into a bill and introduced in the House by Representative David Hunter. An appropriation of $350,000 to start it is asked. The restrictions thrown around admission to

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the proposed Colony are much the same as the restrictions on admission to the Insane Hospital. Board, tuition and treatment are to be given colonists by the State, and also their clothing, if they are poor.

Three Cases of Osseous Stylohyoid Arch.—These cases were reported at a recent meeting of the Chicago Pathological Society by Dr. T. R. Crowder. Complete osseous stylohyoid arch is a comparatively rare anomaly. It is to be considered as a developmental reversion to a lower type and not as an ossification of the stylohyoid ligament once developed in the normal way. In the cases presented the four original skeletal elements of the second branchial arch (hyoid bars or Reichert's cartilages) are represented by separate articulated bones. At the same meeting Dr. F. G. Harris reported a case of blastomycetic dermatitis; while Dr. A. C. Gillam detailed a case of angiosclerotic ulcer of the vagina and cervix uteri.

Fourth of July Tetanus in Chicago.—Dr. H. Gideon Wells read a paper with this title. Following July 4, 1900, there occurred 27 cases of tetanus due to wounds from explosives. The preceding year there were 17 from the same cause. An investigation made to ascertain the source of the infecting organisms demonstrated their absence in the wads of 250 blank cartridges of various makes, but in one of six samples of street dirt from various parts of Chicago they were found. Investigation showed that in nearly every case the physician in charge had neglected to remove the wads and other foreign particles from the tissues, and no consideration whatever had been given to the possibilities of the tetanus infection. Considering the frequency of tetanus in blank-cartridge wounds in this city, and the very positive value of tetanus antitoxin as a prophylactic, the writer urges the injection of five c.c. of antitoxin in all such cases when first seen, in addition to thorough cleansing and drainage, usually under anesthesia.

Education of Deaf and Deaf-Mutes by Means of Aural Exercises.—Dr. E. F. Snydacker read a paper on this subject before the Chicago Medical Society. It has long been known that deaf-mutes retain certain remnants of hearing. Bezold has shown that if these remnants of hearing lie within that part of the scale, the number of vibrations of which corresponds to the number of vibrations of the human voice, *i. e.*, from b^1 to g^4, the hearing of these deafs can be wonderfully stimulated and augmented by aural exercises. These exercises cannot change pathologic processes, but they do stimulate and augment such powers as exist. They combat the apathy into which such patients fall; they bring new brain centers into play by overcoming states of aphasia into the ear until mental acoustic images are given chiefly by means of the human voice; objects are shown children and their names shouted into the ear until mental acoustic images are aroused. If they are old enough, letters are shown and their names shouted into the ear until they can be repeated. The vowels are taken and repeated until they can be correctly understood. The child, almost at once, makes efforts to speak. After the vowels, consonants are taken, and very soon simple words and simple combinations of words. If the child possesses the requisite range of hearing, improvement continues until conversation can be understood. A certain percentage, by no means insignificant, of the inmates of deaf and dumb asylums are adapted for this training. If the requisite range of hearing is not present, or if the children are simple-minded or idiotic, the exercises are wasted labor. These exercises have been officially investigated and adopted in Bavaria, Baden, and other German States, and are also employed in many institutions in Austria.

State Sanatorium.—A bill for the establishment of a sanatorium in Illinois was introduced by Representative Warren a few days ago. This bill was framed by Dr. John A. Robison of this city in accordance with the suggestions of the Legislative Committee of the Illinois State Medical Society, of which he is a member. It also has the endorsement of the Illinois Society for the Prevention of Consumption, the State Board of Health, and the medical profession generally. The bill asks for an appropriation of $200,000 for the purchase of a site, the erection of the building, and the maintenance of the institution for one year. It provides that the sanatorium shall be in charge of three trustees and under the superintendency of a practising physician, who shall be a graduate of some school recognized by the State Board of Health. The resident physicians are to be selected on competitive examination, conducted by the State Board of Health, and the cost of treatment of indigent patients is to be defrayed by the counties in which they reside. Special safeguards are contained in the bill to prevent the encroachment of politics into the management of the institution. Dr. Robison said it is a shame that Illinois has no place for the treatment of persons afflicted with tuberculosis, when it has been conclusively demonstrated that the disease is curable. The bill has been framed with the idea of giving a close supervision to the daily life of patients and according them hygienic treatment which will enable them to resist the disease. Dr. George W. Webster said it is necessary that a sanatorium should be established, not only for the curing of consumptives, but also for the protection of all who are not afflicted with the disease. Dr. J. B. Murphy said the idea is a most excellent one. Such a sanatorium will fill a long-felt need of the State and community in general. If it is run for the purpose of curing tuberculosis and not as an antemortem resting-place, it will be a monument to the wisdom of the State Legislature for all time. The greatest blot on the reputation of Chicago as a progressive city is the fact that if a poor person is afflicted with consumption he must go to the poorhouse for treatment. A

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sanatorium for consumptives can produce more beneficial results for the human race than any other form of public institution for the care of the sick.

GENERAL.

Western Ophthalmologic and Oto-Laryngologic Association.—This society will meet in its next annual session in Cincinnati, Ohio, April 11th and 12th. An interesting program has been arranged and the medical profession are cordially invited to attend the sessions. Dr. C. R. Holmes of Cincinnati is Chairman of the Local Committee of Arrangements. Dr. M. A. Goldstein of St. Louis is the President, and Dr. W. L. Ballenger of Chicago is the Secretary.

Obituary.—Dr. William Rice, Mayor of Trenton in 1879 and 1880, died suddenly in that city last week. He was sixty-three years of age and one of the oldest practising physicians in the city.

Dr. J. H. Linsley, Director of the State Laboratory of Hygiene and State Bacteriology, died at Burlington, Vt., last Sunday. He was born in Windsor, Vt., in 1859. He was appointed in 1887 an instructor of clinical microscopy in the New York Post-Graduate Medical School and Hospital. Later he was made director of the Laboratories of Histology, Pathology and Bacteriology, also pathologist to the New York Post-Graduate Hospital and the New York Infant Asylum. In addition he did some pathological work for the St. Luke's and the Presbyterian hospitals. He went to Germany as representative of the New York Post-Graduate Medical School. He gave the first address on lymph treatment for tuberculosis in this city.

CORRESPONDENCE.

OUR LONDON LETTER.

[From Our Special Correspondent.]

LONDON, Feb. 9, 1901.

THE REPORT OF THE SOUTH AFRICAN HOSPITALS COMMISSION—THE CHARGES OF MR. BURDETT-COUTTS NOT SUSTAINED—EXONERATION OF THE ARMY SURGEONS—BLAME FIXED ON THE RIGHT SHOULDERS OF THE WAR OFFICE—NEED OF REFORM—AN EFFETE SYSTEM—INADEQUACY OF THE ARMY MEDICAL STAFF—IGNORING BY THE WAR OFFICE THE DEMAND FOR MORE AMBULANCES—APPLIANCES OUT OF DATE—TOO MUCH MILITARISM IN THE HOSPITALS—COMPLAINTS AGAINST ORDERLIES—THE APPOINTMENT OF SPECIAL SANITARY OFFICERS RECOMMENDED—THE CONDITIONS OF AFFAIRS AT BLOEMFONTEIN—TYPHOID PATIENTS ATTENDING ON THEMSELVES—OUTBREAK OF SMALLPOX AT GLASGOW.

THE Blue-book containing the report of the Royal Commission appointed to inquire into the medical service in the South African War has been issued. The Commission first met on July 23th. They held seven sittings in England and then went to South Africa where they took evidence and inspected the hospitals, traveling over the whole of the lines of communication from Cape Town to Bloemfontein and thence to Pretoria. They returned to England at the end of October. The main results of the inquiry are the conclusions that the medical and hospital arrangements have not broken down; that there has been nothing of the nature of a scandal with regard to the care of the sick and wounded and no general and widespread neglect of patients or indifference to their sufferings. All the witnesses of experience in other wars were unanimous that, taking it all in all, in no campaign have the sick and wounded been so well looked after as in this. But the Royal Army Medical Corps was deficient, defective in organization and training and imperfectly equipped with appliances. As I have repeatedly said in my previous letters, the army surgeons were in no way to blame. It is the old story over again, deplorable want of foresight and common sense on the part of the War Office and Herculean efforts on the part of its servants. The muddling of the War Office has not been confined to purely military matters. As I have before pointed out the Medical Corps is not master in its own house; it has no transport service of its own and its demand for supplies can be refused or granted by non-medical officers.

The fact is the Medical Corps has always been snubbed and treated with as much contempt as possible by the military authorities, simply because it is composed of men who practise their profession as a means of living and are not members of an aristocracy, or more often plutocracy, who enter the army because it is fashionable and a good club. As a natural result the knowledge of warfare as a science possessed by these men is of the slightest. Hence the lamentable blunders of this campaign. This is not perceived at all, or only dimly so, by the average Englishman who has to pay for their blunders so dearly, both in taxes and in the blood of his kin. He absolutely fails to grasp the elementary fact that war is a matter of science and not of snobbery. Is it any wonder that men who bungle in military matters, about which they are supposed to know something, should bungle in the control of medical matters of which they know nothing? As a result of this inquiry we shall, of course, get reforms. In fact everybody is crying for the reform of the War Office, the deficiencies of which are at last dawning on the complacent conservatism of the average Englishman. But I am quite certain they will not be nearly as radical as they should be. We have a reactionary Tory Government in office which from its very nature is in sympathy with obsolete and effete prejudices. However high may be the value of the scientific work done in Great Britain and however devoted the workers, the position of science in the eyes of the mass of the people and for the upper classes is a poor one. Snobbery and the gross materialism of wealth are the only ideals of these people. When this is understood you have the ultimate cause of the difficulties in South Africa, military and medical.

As to the general inadequacy of the medical

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staff of the Army the Commissioners say that the military and medical authorities never anticipated that this war would have been of the magnitude which it has attained. The Medical Corps was totally insufficient and it was not so constituted as to be capable of enlargement nor to have its deficiencies made good. This was not the fault of the Medical Director-General and his staff. For a considerable time before the outbreak they urged upon the military authorities the necessity for an increase of the Corps, but without avail. The regulation ambulances are condemned by the Commissioners. They say: "We found them very heavy, requiring a large number of mules to draw them, and very jolty and uncomfortable. The type used appears not to have been materially changed or improved for many years." More conservatism! A defect in the equipment of the fixed general hospitals was the lack of transport. Transport was ordinarily supplied by requisition from the Army Service Corps, which led to delay. A fact observed by the Commission was the existence on the part of many military officers of a feeling of distrust of the skill and experience of the Medical Corps as compared with civil doctors. To a great extent the Commission believe this mistrust to be ill-founded. That it is not wholly unfounded is due to the difficulties under which the Corps has labored. In time of peace the Corps has been undermanned and the officers have not had sufficient holidays nor leave nor opportunities of studying and keeping abreast with recent advances in the practice of medicine and surgery.

The Commissioners recommend (1) that the staff of the Medical Corps be permanently enlarged and due provision made for its further necessary and speedy enlargement in times of great wars; (2) that inducements be offered to ensure a continuous supply of men of good professional attainment; (3) that the men who have joined be kept as a body thoroughly acquainted with the general progress in professional subjects and at a high professional standard of efficiency. The means by which these results may be best attained require careful expert investigation and consideration and the Commissioners recommend that they be considered by a departmental committee. In the hospitals the Commissioners found too much militarism—a tendency of some of the officers and still more of the non-commissioned officers and men of the Medical Corps to treat the hospitals too much as barracks and to regard those admitted as soldiers and not as patients. The nurses employed in this war have shown great devotion and the soldiers have much appreciated their services which they prefer to those of orderlies. At the outbreak of war there was available only staff and equipment for two army corps (80,000 men), and even these were equipped with difficulty. The deficiency was made up partly by private hospitals and the wholesale use of civil surgeons and untrained orderlies. But it was never wholly made up. The Army Corps unit allowance of field-hospitals was reduced from 9 to 6. Thus the field hospitals in South Africa were 10 short of the proper number and this defect was never made good and caused a strain throughout the whole campaign. At the time of greatest pressure, the end of March, the total force engaged was about 207,000 men. There were then 800 medical officers, including civil surgeons, 6,000 hospital subordinates and 800 nurses. But it does not follow that this medical aid was distributed in proportion to the needs of particular localities. The movement of troops was often sudden and unexpected. Transport was generally difficult and had in many cases to be used exclusively for the fighting line. Taking their work as a whole, the Commissioners consider that the Principal Medical Officer and his staff did excellent work. They never spared themselves and showed the greatest devotion to duty. Complaints against orderlies was frequent, but this was due to the large proportion of untrained men which had to be employed. On two evils of hospital life it is suggested that the medical officers should be vigilant—the stealing of stimulants and comforts intended for the sick and even their money and other property and the practice of taking bribes. Many complaints were made on this head. The need of special sanitary officers is emphasized by the report. It is suggested that they should be members of the Medical Corps specially qualified and selected for sanitary duties.

Referring to the state of affairs at Bloemfontein in May, which, it may be remembered, was the principal point of Mr. Burdett-Coutt's attack, the Commission says that when the army began to advance toward Kroonstadt the field-hospitals had to be cleared in order to accompany the troops and the patients had to be discharged into general hospitals. As the advance continued the sick and wounded were sent back to Bloemfontein with the result that there was great overcrowding of the hospitals. One hospital, the regular complement of which was 520 patients, had to receive 1,400. The doctors and orderlies were overworked and there were too few nurses. There was a deficiency of necessaries and, the report adds, a want of energy in improvising substitutes or in remedying defects. Patients were not properly nursed and typhoid patients, though probably not of a severe type, had to wash and tend themselves, night stools were not properly emptied, etc. Generally speaking, the difficulties at Bloemfontein were due to defective transport and a violent epidemic of typhoid fever which could not have been foreseen. The Commissioners think the difficulties were not realized as soon as they might have been and that more doctors might have been obtained and sent up earlier.

Small-Pox in New York.—Another nest of small-pox was discovered last week in the upper West Side of the city. Thirteen patients were removed from one building. One patient had died and the others had been sick a week.

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TRANSACTIONS OF FOREIGN SOCIETIES.

British.

NEPHRECTOMY—BACILLUS AEROGENES CAPSULATUS—RADIOGRAPHY AND DIAGNOSIS—CIRRHOSIS MALIGNA—PRIMARY HEPATIC CANCER AND CIRRHOSIS—MITRAL DISEASE—RHEUMATISM AND THE SKIN.

F. HEUSTON, at the Section on Surgery of the Royal Academy of Medicine in Ireland, November 9, 1900, exhibited a case of nephrectomy for sarcoma of the kidney. The woman, who was twenty-four years old, noted in the winter of 1898 a large painless tumor in the right side, had severe hematuria for three days in February, 1899, but no recurrence of it since, complained of a gradual increment in the mass until September of that year, when it began to cause dragging and pain in the erect position of the trunk. Examination at this time revealed a tumor filling the umbilical and right lumbar regions laterally outward from the linea alba and from beneath the costal arch above to the iliac crest and fossa below, freely movable within the abdomen and beneath the skin, of stony hardness, smooth surface and well-defined border, without tenderness or pain on pressure. February 1, 1900, the usual oblique incision was made for a lumbar nephrectomy and a tumor of the kidney chiefly cystic in character was exposed. The larger cavities were aspirated of a clear limpid fluid containing albumin, but no urea. The pelvis of the kidney was much enlarged and filled by a hard growth which extended down the ureter to the iliac vessels and brim of the true bony pelvis. Beyond this point the ureter appeared normal. Hence it was tied off here, dissected upward to the renal vessels from which its pelvis was separated fully before the blood-channels were ligatured. The extraction of the balance of the tumor was now easy. Uneventful recovery resulted. The total excretion of urine during twenty-four hours increased from twenty-one to forty ounces.

A meeting of the Section on Pathology of this same Society was held November 30, 1900, when E. J. MCWEENEY gave an account of his recent experiments with the *bacillus aerogenes capsulatus*. A man had had his arm ground almost to a pulp in a thrashing machine and did not long survive amputation, at which a peculiar, gelatinous condition of the tissues was noted. About twenty-four hours after death the corpse presented a most remarkable appearance. It was swollen to at least twice its size and was covered everywhere with large black bullæ and was crepitant wherever touched. The skin was so softened that the point of blunt forceps could be forced through it at any point with perfect ease and out of the holes came frothy fluid made up of turbid serum and sour-smelling gas. Microscopically the fluid was very abundant in a very large bacillus much resembling the anthrax bacillus, capsulated, without demonstrable spores, staining well by Gram's method, multiplying rapidly in anaerobic plate-cultures over alkaline pyrogallol, by which means it was isolated, although not without difficulty. The special dish used for this purpose was then exhibited. Associated with it were the bacillus coli communis and a streptococcus. All three forms grew well in an atmosphere of hydrogen, but not of coal-gas. The best culture medium for the gas-producing germ appeared to be a sodium-sulphindigotate agar.

H. WALSHAM and E. C. BEALE, at the Medical Society of London, January 14, 1900, read their observations upon the value of the skiagraph in the diagnosis of diseases of the chest. Several important conditions must be observed, before a successful issue can be expected. The coil must be one of very high potential, giving a ten- to fourteen-inch spark. A feebler apparatus will fail to be satisfactory. It is necessary to have such a spark some distance from the chest and for photography have the person lie face down upon the couch with the plate suitably protected from damage by light and pressure beneath him. Dermatitis is not a necessary sequel to the use of the skiagraph and seems to be due almost entirely to too frequent exposure at short intervals or to too prolonged exposure at a single sitting, for example, one-half to one hour. Views from various directions are always essential to a good picture and an accurate diagnosis and the best series is from the extremities of a given diameter, for example, from the front and the back, and two oblique views. The vertebræ, rib, scapulæ, clavicles and sternum of the bony frame, the axillary folds of the muscular frame and the individual visceral outline must be well in the mind's eye. The heart has a deeper shadow at the ventricular than at the auricular regions. The lungs are translucent, but their outline is distinguishable by the light line of the pleuræ. Emphysema increases the translucency of the lungs. Thick pleura gives a slight shadow. Clear fluid except at its upper border does not alter the picture much. Pus is always of very deep shadow indeed. Consolidation is like a solid organ. Aneurisms and tumors so alter the relations of the organs and give themselves such good outlines that they are well within the scope of the instrument and lend themselves to very early and exact diagnosis with it. Tuberculous nodules, being really consolidations, are easily recognizable, usually long before they begin to give physical signs.

H. L. JONES said in the discussion that he regards the radiograph as a more valuable means of examination than the ordinary methods of palpation, percussion and auscultation. In aneurism he has seen it indicate the disease when both symptoms and signs were as yet wanting.

H. D. ROLLESTON, at the Pathological Society of London, January 15, 1901, reported a case of primary hepatic carcinoma secondary to a cirrhosis, the so-called cirrhosis maligna or cirrhosis carcinomatosus. The man was forty-four years old and during life had had hematemesis, hepatic pain and ascites which had required tapping four times. At the necropsy the liver was found cirrhosed and the seat of a primary carci-

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noma. There was no other discoverable primary node of cancer anywhere to be found. The growth invaded the liver widely and at the portal vein extended in a wedge-shape formation between the bifurcation of the vein. Microscopically the growth was carcinoma and had spread along the portal vein so that secondary deposits were to be found in other parts of the organ. The cell-arrangement was tubular, not unlike the new bile-duct formation often seen in cirrhosis, and might be called *epithelioma trabeculare* after Hanot and Gilbert. These writers regarded the carcinomatosis and cirrhosis as synchronous, but Sabourin, with whom Rolleston agreed, looked upon the cirrhosis as the precedent lesion. Perhaps the cancer was to be looked upon as an implantation by the cancer neoplasm as yet unidentified.

W. Hunter presented two specimens of primary hepatic cancer grafted upon cirrhosis of the liver, with metastasis in the lungs of each case. The first patient was a sixty-year-old man who was admitted to the hospital for cirrhosis and ascites after a six-weeks' illness. The other man was fifty-five years old and was admitted for cirrhosis jaundice and ascites. Both were systematically tapped, but succumbed. At the necropsy a remarkable similarity of lesion was present, as each had (1) a coarsely-lobulated, hypertrophic cirrhosis; (2) areas of apparently healthy liver-tissue cells scattered through the cirrhosis; (3) cancerous nodules situate in these islands of healthy gland, here and there; (4) metastases in the lungs; (5) no cancer primary to that in the liver; (6) thrombosis of the portal vein. Microscopically the hepatic and pulmonary neoplastic nodes were alike in character. The liver cancer had probably originated in its own normal cells, because many of these were polynuclear and evidently very active in multiplication and metabolism.

J. O'CARROLL, at the Royal Academy of Medicine in Ireland, Section of Medicine, on December 14, 1900, presented a man, sixty-five years old, admitted to the hospital May 25, 1900, suffering from marked dyspnea and sleeplessness due to it, also epigastric pain, thirst and frequent micturition. He had a soft systolic murmur at the apex, albumin and sugar in his urine. He was put to bed and signs of fluid found in his right chest, then in his left. Regular tapping was done eighteen times and a total of sixty-seven pints withdrawn. The last tapping was October 30, 1900. Since then most of his symptoms have ameliorated or disappeared. The best diagnosis appears to be mitral insufficiency with acute dilatation.

H. THURSFIELD, at the Clinical Society of London, January 11, 1901, read notes of a case of rheumatic periostitis and subcutaneous nodules. He was admitted to the wards of the hospital November, 1900, and presented periostitis of the right tibia and diffuse multiple subcutaneous nodules all over the body. There were no evidences of acquired or congenital syphilis, but many of rheumatic infection, stiffness and tenderness over the hamstring muscles and a small effusion into the knee-joint. The heart was slightly dilated, but without signs of endocarditis. Rheumatic periostitis of the ulna was reported in 1889 by A. Garrod and J. Coutts as a rare affection. The occurrence of subcutaneous nodules with no cardiac lesions is a clinical curiosity. W. B. Cheadle has stated that such subcutaneous nodes are a certain sign of very intense infection and almost always point to cardiac disease. W. B. Hadden in 1889 brought before the Clinical Society another case like the author's, namely, with sound heart although he had the cutaneous deposits.

SOCIETY PROCEEDINGS

THIRD PAN-AMERICAN MEDICAL CONGRESS.

Held at Havana, Cuba, February 4-7, 1901.

(*Continued from page 284.*)

SECTION ON LARYNGOLOGY, RHINOLOGY AND OTOLOGY.

TUESDAY, FEBRUARY 5TH.

Otitis and Mastoiditis in Eruptive Diseases.—Dr. A. B. Duel of New York read this paper based on a series of 5,000 cases of measles, scarlet fever and diphtheria, in many of which acute otitis media and mastoiditis occurred as complications. In cases with dual affections the complications were especially prevalent and difficult to treat. Infection takes place mainly through the Eustachian tube and operative procedures alone are capable of giving the best results. Bacteriological examinations of the throat and of the exudates were valuable aids to diagnosis.

In the discussion Dr. Martinez of Havana said that he has always been surprised not to find more cases of mastoiditis in Cuba in proportion to other ear troubles, and finds in Dr. Duel's paper a possible reason for it. Eruptive fevers in Cuba generally run a very mild course, and scarlet fever especially is of such a mild type that often the cases are not cared for; aural complication from this source is therefore rare. The same can be said of measles and diphtheria (in the latter disease on account of the rapid action of the serum). Most of the cases occur as a complication of grip. In reference to operative treatment, he is in favor of the total resection of the mastoid. After having seen it practised by Dr. Whiting of New York, he has operated on a patient in this manner, obtaining a rapid healing; the whole mastoid process was full of soft granulation tissue.

Dr. E. Andrade of Venezuela said that he considers grip the most important factor in the causation of suppurative otitis media and its complications. Being in Genoa last winter during an epidemic of grip, he found that most of the cases were produced by this disease. He is in favor of a radical operative treatment which destroys the posterior wall of the meatus, establishing a free

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communication between the antrum and the tympanic cavity. In New York he recently saw a case operated by Dr. Arnold Knapp by Ballance's method, covering the cavity with a skin-flap. The case was doing well at the time.

Dr. G. Landa of Cienfuegos believes that grip is a more common cause of otitis media than the eruptive fevers. He insists specially on irrigating the cavum and entrance of the Eustachian tube with some antiseptic solution as a prophylactic measure, considering this the constant way of infection of the tympanic cavity.

Dr. Duel in closing said that he has not pretended to establish the causes of suppurative otitis media, but to present the relative frequency of this disease as the complication of eruptive fevers; cases of these fevers are the only ones admitted to the institution in his charge. He also points out the severity of cases produced by double infection (measles and scarlet fever) and the necessity of practising a bacteriological investigation in all cases; it is an important measure to operate early in all cases to obtain the best results.

Pharyngeal Hemorrhage and Hemoptysis.—Dr. G. Landa of Cienfuegos read a paper on this subject. He said that in some cases hemorrhage from the pharyngeal wall was so excessive as to give rise to the opinion that pulmonary hemoptysis had taken place.

Dr. Martinez observed that this complication was not unusual in chronic paludal poisoning, especially following operations, and that the administration of quinine was sufficient to prevent its recurrence.

Chloroform Apparatus.—Dr. R. Garcia Rijo of Sancti Spiritus then presented an apparatus to be used in operations about the nose. It is made of tin sheeting and has some rubber tubing leading to the nose.

Laryngeal Inhibition of Respiration.—Dr. E. Martinez of Havana said that Rosenthal, while studying the physiology of the branches of the superior laryngeal nerve, found that when the internal branch or the root of the superior larynx was excited electrically the respiratory functions of the diaphragm were immediately suspended, but that it did not occur on exciting its external branch destined to the crico-arytenoid muscle. This experimental fact has received its clinical confirmation in an operative accident on extirpating papillomata from the larynx. Reference was made to a girl in whom the respiration was twice suspended while the author was curetting a papilloma.

WEDNESDAY, FEBRUARY 6TH.

Prevention of Stammering.—Dr. H. Makuen of Philadelphia read a paper in which he laid particular stress on the efficacy of correct breathing, as an aid to the prevention of this difficulty. Constant respiratory exercise is the keynote to the cure. The patient should not think of what he is saying so much as how he is breathing. Diaphragmatic breathing is to be carefully controlled and gotten under the will of the patient. The causes of stammering are multifold, but the main cause is probably largely psychical.

In the discussion Dr. Desvernine of Havana referred to a case of stammering in a woman cured by the operation of a lingual adenoid. He differs from Dr. Makuen in considering the cause as an organic lesion of the central nervous system.

Dr. Andrade compared stammering to strabismus, that is, as a disorder of binocular vision by an incoordination of muscular action in the same way the laryngeal muscles maintain an incoordinate action in stammering.

Dr. J. Mullen of Houston agrees with Dr. Makuen as to the cause of stammering and specially in the manner of preventing it. He referred to a case of a boy, three years of age, who was not only a stammerer, but also was unable to swallow solid food and was fed exclusively on milk. Following Dr. Makuen's directions he was submitted to physical training during three months. Internal pressure on the tongue and external pressure on the neck taught him to swallow solid food and later he was able to articulate several phrases distinctly without stammering.

Dr. Makuen said in closing the discussion that after five years of experience, during which time he has treated over five thousand cases of stammering, he really does not know the cause; it is like the cause of asthma, unknown to us. Speech is an acquired faculty and he wonders why all people do not stammer. It is not an organic disease, but he mentions the fact that 33 per cent. of the cases show a history of inheritance. Possibly they inherit the nervous disposition. To say adenoids produce stammering is misleading. It may induce the habit in a nervous case predisposed to it; in the case referred to in the paper just read the child had physical training before and after the operation. In the same way any nasal obstruction, such as a deflected septum, may be the cause of this disease. The operation will only place the patient in a suitable condition for physical training. He referred to a case of a woman who stammered for thirty-six years and broke the habit by physical training with such a success that she afterward opened a studio in New York to cure stammerers. This patient was persuaded that she could break her habit and she set to work so earnestly that at the time of the third consultation she was cured.

Suppurative Mastoiditis.—Dr. Finlay read a paper giving the clinical histories of two cases of this affection in which cerebral symptoms developed. Dr. Landa said that the dehiscence of the petrosal suture was in many instances the avenue by which infection of the cranial cavity took place.

Dr. Andrada thought that the cerebral symptoms noted by Dr. Finlay were quite notable. He cited a case of Dr. Strasse of Genoa in which abscess of the temporal lobe developed without showing any signs of papillitis. Hence this diagnostic symptom is not always present. Radical operation was necessary since no internal remedies were of value in cerebral involvement.

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Dr. M. Herrera of Mariano insisted on early operative procedures.

Dr. Desvernine adopted a more conservative attitude. Many cases are certainly benefited by early operation, but some cases recover without such operation.

Dr. Finlay, in closing the discussion, maintained that operative procedure was alone of value and should be used in all cases. He did not trust to the ordinary routine non-operative methods.

Pharyngo-Laryngeal Paralysis.—Dr. C. M. Desvernine of Havana read an interesting study of a case of Avelli's type of pharyngo-laryngeal hemiplegia, in which he discussed at length the anatomical, physiological and pathological features of the facial, pneumogastric and Will's accessory nerves, especially in relation to their distribution in the soft palate and in the larynx. He further presented a study of a human monster in which he had made research bearing on these same points. The paper is exhaustive and technical, but is a noteworthy addition to our knowledge of the peripheral distribution of some of the more important cranial nerves.

Dr. Andrada then reported the case of a man with the symptoms of acquired syphilis, who was treated in Prof. Secondi's clinic for a paralysis of the internal rectus of the left eye and of a sharp, intermittent and painful contracture of the abductor muscles of the right eye. Antisyphilitic treatment by injections of bichloride and potassium iodide was unavailing. He then made a tenotomy of the muscles of the external rectus of the paralyzed eye and a similar operation on the right eye. Although absolute results could not be hoped for, the paralyzed eye recovered its function and the contractures of the muscles of the right eye disappeared. These results are significant as bearing on our knowledge of the innervation of the ocular muscles.

Dr. Landa thought that the study of Dr. Desvernine was an important step forward in our knowledge of the important signs by which one could differentiate between central and peripheral paralyses of the facial nerve, paralysis of the velum furnishing the important diagnostic symptom.

Dr. Andrada spoke of having seen a similar case in Dr. Knapp's clinic in which there was no paralysis of the velum.

Foreign Bodies in Air-Passages.—Dr. A. W. de Roaldes of New Orleans read this paper. In presenting sixteen cases of foreign bodies in the lower air-passages, the author points out the fact that the twelve recoveries that took place had been operated upon, while the four deaths were among the cases that refused the operation. Dr. de Roaldes adds that leaving aside all consideration of statistics, which are at times misleading, he wishes to put himself on record as the result of his personal experience, for advocating in most cases an early surgical intervention. Apart from the question of foreign bodies in the larynx, the treatment of which is pretty well agreed upon, he says in conclusion: (1) That the presence of a foreign body in the trachea is always a more or less serious accident; (2) that in such cases prompt and proper action must be resorted to, in order to anticipate swelling and ulceration of the mucous membrane and any infectious process resulting from the prolonged presence of the foreign body; (3) that this indication is best fulfilled by a tracheotomy, at a level most suited to the requirements of the case; (4) that if not coughed up shortly after the opening of the trachea, the foreign body should be located by means of tracheoscopy and of bronchoscopy, and its extraction effected, is possible, under a light, and with improved instruments. In closing, he adds that in the question of foreign bodies in the air-passages, as well as of those in other regions, radiography may be very useful for such substances as are susceptible of being located by this process. As to metallic bodies that are magnetic, he suggests the trial of Haab's giant magnet, which under certain circumstances might prove of great value by placing it before the mouth or before the tracheal wound, according to the situation of the foreign body.

(To be continued.)

NEW YORK ACADEMY OF MEDICINE—SECTION ON MEDICINE.

Stated Meeting, Held January 15, 1901.

J. H. Huddleston, M.D., Chairman.

Mosquito-Malaria Theory.—Dr. W. N. Berkeley said that in the neighborhood of New York two forms of the *Anopheles* mosquito, the malaria-carrier, are quite common. These are the *Anopheles quadrimaculatus,* so-called because of the four spots on its wings, and *Anopheles punctipennis.* The former is common, the latter rarer. The *Anopheles* mosquito can be distinguished from other common varieties because its palpi are as long as its proboscis and the commonest variety has spots on its wings. The posture of the insect of the genus *Anopheles* has often been said to be characteristic. Dr. Berkeley has made a special study of this subject and is of this opinion. Posture alone, however, is not an exclusive method of recognizing the insects. Dr. Berkeley has often caught specimens of *Culex* that were not resting parallel to the wall or ceiling on which they stood, but somewhat at an angle. This posture at an angle is usual with *Anopheles.* The *punctipennis* variety is found very commonly in The Bronx region, especially in the neighborhood of Jerome Park. *Quadrimaculatus* is found in all of the suburbs of New York where malaria occurs. So far as known no malarial district is without some variety of *Anopheles.* Considerable study has been devoted to this question as regards the vicinity of new York, so that this of itself is an interesting confirmation of observation made in other countries.

Interesting Facts.—There are certain places especially on Long Island where, notwithstanding the fact that *Anopheles* mosquitoes are reasonably frequent, there is no malaria. In one or two of these places the nights are so cool during the sum-

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mer that the inhabitants sleep under blankets. It is probable that this coolness of the nights has much to do with the failure of malaria to develop. A few cases of malaria have been noted in and around New York, near which no specimens of *Anopheles* could be found. The mosquitoes were looked for, however, only in the day, while it is usually at night that they are on the wing. The malarial mosquitoes are found most often in foul, ill-ventilated and dark rooms. These, of course, are mainly the apartments of the poor. Needless to say it is in this class that malaria is most frequent. The *Anopheles* practically never bites during the day. In this it differs from the more common mosquito *Culex*, which is particularly ravenous during the day.

Earliest Malaria.—The earliest cases of malaria in the spring depend upon the date at which *Anopheles* bite. This is not definitely decided as yet. The earliest fresh cases of malaria reported in Italy occurred about the middle of June. Dr. Berkeley thinks that he found, in the case of a gardener at Larchmont, one in which a fresh malaria developed on March 16th. Therefore the patient must have been stung by a mosquito about March 1st. As a rule, cases of malaria which occur in the spring are relapses from previous attacks of the disease. The patient in Dr. Berkeley's case was an intelligent Scotchman, who had not had malaria for ten years, and the most probable explanation of the origin of the disease seemed to be that it was primarily acquired some two weeks before its onset. *Anopheles* does not hold over during the winter, except in the case of impregnated females which may be discovered hibernating. This is a well-known fact. In the neighborhood of New York *Anopheles* has frequently been discovered about Christmas clinging to the wall in dark places. It is interesting to note how few the male mosquitoes are in number. It is always the females who sting.

Forms of Malaria.—Tertian malaria occurs quite commonly. Fresh cases of it can be studied among the workmen at the Jerome Park reservoir. Quartan fever is much more rare and a case in which a positive diagnosis could be made has not yet been observed. Cases in which crescents occur, that is, crescentric forms of the malarial parasite, are not influenced by the administration of quinine.

Inoculation of Malaria.—The artificial production of malaria in the human being was tried in the case of a resident at the Presbyterian Hospital who volunteered for the purpose. He was stung by a malaria-bearing mosquito and fourteen days later developed some temperature and diarrhea and even had a chill. The symptoms did not continue, however, passing off after twenty-four hours and no parasites were found in his blood.

Malaria in Manhattan.—Only one case of malaria that seemed to have been acquired on Manhattan Island has come under Dr. Berkeley's observation. This was a young boy, living on Tenth Street, who had not been out of Manhattan for some time. All the other cases of malaria investigated were evidently imported from outside Manhattan. So far *Anopheles* mosquitoes have not been discovered on Manhattan Island. This subject is an interesting one for investigation and one in which many observers could share with interest and at the same time with value to medical science. The exact period of incubation, that is, the length of time between the bite of a mosquito and the development of symptoms of the disease, was observed in one case. The patient had not been out of the city for several years. She went only once to Fordham to nurse a sister and three children who were suffering from chills and fever. Exactly fourteen days after her return she had a chill; she did nothing for it and two days later had another, and two days after this she had a third chill. Then she consulted a physician. Her blood was found to be swarming with malarial parasites.

Prophylaxis of Malaria.—In non-tropical countries there seems to be some hope of completely exterminating the disease. The important measures are the rigorous quarantine of malarial cases in human beings. They must be so guarded that it is impossible for mosquitoes to get at them. The second important precaution is the prophylactic use of quinine. Dr. Berkeley has had one opportunity to test the effectiveness of prophylactic measures in the neighborhood of New York. The first case of malaria occurred in a coachman and then other servants in the house were attacked and cases occurred in surrounding houses. An abundance of *Anopheles* mosquitoes of the *quadrimaculatus* type were found to exist in the neighborhood. For the extermination of the mosquito certain pools which existed in the neighborhood were drained off and filled in. Screen-doors and window-screens were put in position. In addition to this infected cases were carefully surrounded by mosquito-netting, especially at night. The results of these precautions were promptly seen and no more cases occurred. For the extermination of malaria in the vicinity of New York certain measures are advisable. The City Health Board should require all cases of malaria to be reported exactly as is done in scarlet fever or measles. A code of instructions should be issued to enable people to recognize and kill *Anopheles* mosquitoes. Stagnant pools of water should either be drained and filled in or should be heavily petrolized. In an infected neighborhood quinine should be freely used, and it should be supplied at public expense to people who have not the means to pay for it. Those affected by the disease should be carefully guarded from the possibility of being bitten by mosquitoes and thus spreading the disease. In an island near the Italian coast these measures, rigorously enforced, have proved successful in exterminating the disease, although it existed for a long time in virulent form.

Malarial Dangers in Our Cities.—One great source of danger in New York and in American cities generally is the present mode of extending streets out into uninhabited districts. Streets are raised to grade and owners are permitted to delay the filling in until such time as they are ready to improve their property. This gives occasion for

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large stagnant pools of water that exist all the year around. These pools form favorable breeding-ground for the *Anopheles* mosquito. The existence of these pools makes local eradication of the disease practically impossible.

Greatest Discovery of the Age.—Dr. William H. Thomson said that the more one reflects on the mosquito-theory of the distribution of malaria the more one becomes persuaded that its discovery is an important event in the history of medicine—more important even than the discovery of the germ that causes tuberculosis. The finding of the true source of malaria brushes away at once all the old ideas with regard to essentially-unhealthy climates. An unhealthy climate is always an infected climate. It is not soil and air and water, nor changes in them, that cause disease, but the fostering of germ-life. If a sanitarian were given the price that it costs to build one ironclad he could disinfect the most unhealthy place on earth. These important facts with regard to malaria should be brought before the notice of the general public. We owe it to them to make them acquainted with the latest developments of medical science that can accrue to their benefit. It has always been the custom of the profession to instruct them. It is now a duty.

Italian Malaria.—Dr. James J. Walsh said that as the result of Italian investigation with regard to malaria the feeling in Rome as to the disease has changed very much in recent years. There is now the greatest confidence exhibited that before long the city shall be entirely free of the disease. American students in Rome feel that if they protect themselves at night from mosquitoes they are sure to avoid the dreaded Roman fever. At Albanella, near Naples, where malaria of the most virulent form has existed since early Roman times, a small colony of Italian scientists demonstrated that it was possible for people who had never had malaria to dwell in the most malarial part of the region a whole summer without contracting the disease.

Estivo-Autumnal Malaria. — Dr. Morris Manges said that this type of malaria is often said to be rare in New York, but it is much more frequent than it is thought to be. Careful blood-examinations, especially since the Spanish war, have made physicians more generally familiar with the parasite of this type, and have shown this to be true. Another erroneous notion that is being eradicated is that children rarely suffer from malaria. Koch has found that in South Africa the children are quite frequently attacked, and this has been Ross's experience in India. Malaria used to be considered a curiosity in children, but it is much more frequent than has been thought.

Present-Day Grip.—Dr. William H. Thomson said that diseases alter but little in the course of years. The course of the same disease in two different seasons may present notable differences, but the manifestations of the disease in a series of years present a picture that approaches very closely a definite disease type. An exception must be made in this regard for influenza, the clinical symptoms which have certainly grown milder since the first invasion of the disease and the great epidemics of 1899, 1890, and 1891. Serious cases still occur, but they are rare. Dr. Thomson has recently had under his care four cases of delusional insanity due to grip. They were transient in character, but very acute while they lasted. In some recent cases chronic meningitis has followed as a sequela of influenza. Another case was followed by extensive desquamation of the skin. In older patients acute gastritis is sometimes a serious manifestation of grip and may prove almost fatal. In one case seen recently the principal symptom was a sweat so profuse that fluid dripped from the bed. In a physician, who was suffering from grip, acute nephritis developed and was followed by chronic Bright's disease.

Symptomatic Treatment.—This is all that can be accomplished for the disease as there is no specific remedy known. The most prominent symptoms at the beginning of the disease are the aches and pains in the bones. For the relief of the general aching which occurs at the beginning of infectious diseases aconite is the best drug. This modifies capillary congestive states, quiets the heart and brings the circulation back as nearly as possible to a normal condition. After aconite the drug that gives most relief is Dover's powder. With these should be combined some one of the coal-tar analgesics and phenacetin has proved the most useful. This should be given as an analgesic and not as an antipyretic. Dr. Thomson's favorite prescription is the following:

℞ Aconite, solid extract.... . gr. j-vj
Dover's powder..... gr. j
Phenacetin ..... gr. viij
Quinine ..... gr. vj

This is sufficient for two pills. Of these pills six should be taken the first day and each succeeding day until the fever subsides. Then three should be taken every day, until all the catarrhal symptoms have disappeared. These pills are made up by many of the manufacturing pharmacists.

If there is considerable dryness, discomfort and irritation of the throat, a quart of hot water should be used to irrigate it. In the water should be dissolved two drams of potassium chlorate and five drops of oil of peppermint. In order to secure the distribution of the oil of peppermint through the water, it should be dropped upon the chlorate of potash before this salt is dissolved in the water.

Supra-Orbital Neuralgia.—It is a characteristic of grip to produce painful affections of the accessory sinuses and the supra-orbital pain which results from this is often almost unbearable. A certain amount of photophobia is often associated with the pain and patients are in great misery. These pains often recur at regular intervals and a favorite time for their recurrence is the morning hour. Patients are often entirely comfortable at night. The best remedy for these

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is a dram of ergot given every three hours in combination with a dram of cinchona. Ergot is the ideal remedy for periodical neuralgias. When quinine and Warburg's tincture have failed to give relief it often proves of immediate service.

Paroxysmal Cough.—Patients suffering from grip are often troubled by a paroxysmal cough, which is most disturbing at night. For this ammonium bromide in twenty-grain doses, in combination with ten grains of antipyrin, will often give relief. These paroxysmal coughs seem to be dependent at times on a viscidity of the mucus secreted during the influenza bronchitis. The presence of this thick mucus sometimes blocks small bronchi and so leads to the development of areas of capillary bronchitis. The disturbance of the ventilation of certain areas of the lungs leads to loss of tone and to the occurrence of patches of peripheral lobular pneumonia.

Emulsion of Linseed Oil.—An important indication in cases of grip is to liquefy the mucous secretion of the disease. The ammonium compounds often failed to do this, especially in the smaller bronchioles. The best expectorant for the purpose is the emulsion of linseed oil, which has no equal. It has been sold in recent years as a proprietary remedy. It may be combined with one eighth-grain of opium and eight grains of chloral and administered every four hours. Counterirritation must not be neglected in these cases. Large cloths should be wrung out in warm water to every pint of which one dram of capsicum has been added. If fine râles exist at the base of the lungs, as will be found to be the case oftener than is usually thought, this should be kept up for a couple of weeks. In these capillary bronchitic conditions inhalations of oxygen are often of service, especially if the gas is administered by means of a large mouthpiece which covers both mouth and nose, as in the administration of ether.

For the prostration which so often accompanies grip, fluid extract of coca with nux vomica constitutes the best remedy. This prostration is the serious symptom of grip. Even with a slight influenza patients should go to bed and stay there. To continue on the feet may cost the patient his life even in mild cases Rest in bed is often quite enough treatment for the affection, but patients will insist on getting up, although their purpose may be no better than to go to a dancing-party and further spread the infection. It must not be forgotten that grip is as infectious as measles.

Anomalous Symptoms.—Dr. A. H. Smith said that while cases of influenza seem milder this year, some of them are associated with anomalous symptoms. He had just come from a case of mild grip in a young man, in whom, without any local reason, retention of urine had developed. Nearly a quart of urine was removed by catherization. Dr. Smith's experience has shown him the value of ergot in brow neuralgia. Some years ago, while acting as surgeon to the Brooklyn bridge builders, Dr. Smith had considerable experience with the painful symptoms which often accompany caisson disease. For these pains full doses of ergot acted like magic, while other analgesic remedies failed to give relief.

Prophylaxis of Grip.—Dr. Crooke said that not enough has been said about the prophylaxis of grip. Isolation of cases is, of course, not practicable. Certain individuals are, however, so susceptible to the disease, the young and the old, those with vulnerable organs, the tuberculous and the generally feeble and delicate, that they should be recommended to leave the infected district and go to a better climate. For this Florida is especially suitable. The elevated table-lands in the center of the peninsula make an ideal winter resort for such susceptible individuals. It would seem that quinine would act as a prophylactic against grip. If patients seem susceptible, that is, if they have had the disease several times before, four or five grains of quinine should be taken morning and evening during the existence of an epidemic. Stimulants are also important and a half an ounce of whisky may be advised if there seems special liability to grip, but this advice must be judiciously given. Physicians who are frequently exposed to contagion should often practise irrigation of the nose.

Treatment.—At the beginning of an attack of grip a mercurial or saline purge should be given if there seems to be any necessity, but not as a routine. If headache and pain are prominent symptoms five grains of phenacetin and twenty grains of sodium bromide should be given every five hours. Phenacetine seems to be specially applicable in grip and to be almost specific in its action against the pain. When fever asserts itself the following prescription may be employed:

℞ Dover's powder,.....
Quinine,..... .....
Acetanilid .....aa gr. ij

Two of these powders should be given at once and then one every three hours during the continuance of fever. If there is much excitement and restlessness a hypodermic of morphine should be given. The cough of grip is often as difficult to treat as that of whooping-cough. The following prescription has been found especially useful:

℞	Phenacetin	gr. ii
	Codeine	gr. j-vj
	Extr. glycyrrh. fl.....	gr. j
	Heroin.....	gr. j-xxii

When the cough seems hard and hacking, muriate of ammonium, grains 3, should be given. In robust patients apomorphine, grain $^1/_{30}$, will be found of the greatest service. For the muscular pains which so often develop after grip and in which salicylates seem to do no good and give dyspepsia, Turkish baths will be found to furnish the greatest measure of relief.

Capillary Bronchitis and Counterirritation.—Dr. Morris Manges said that any one who makes

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it a routine to examine the bases of the lungs will be amazed to find how often fine, dry râles occur at the end of expiration, often on both sides of the chest, the more frequently on the left at the very beginning of the disease. These râles mean a bronchiolitis of the smaller tubes. Atelectatic areas, from plugging of the bronchi, will be frequently found. For these symptoms counterirritation, especially the use of Priessnitz' bandage, is of great importance. It should be changed every four hours and it serves the very useful purpose of keeping patients in bed at times when they might otherwise insist on being up. For the cough heroin is an excellent remedy. Combined with terpene hydrate or potassium iodide it usually gives excellent results.

NEW YORK NEUROLOGICAL SOCIETY.

Stated Meeting, Held January 1, 1901.

The President, Frederick Peterson, M.D., in the Chair.

Spinal Accessory Paralysis.—Dr. Pearce Bailey presented a man who last March had been operated upon for suppurating glands of the neck. During the operation the spinal accessory nerve had been cut. There had been immediate and complete paralysis of the sternomastoid and trapezius. About six weeks later the nerve had been sutured, with considerable improvement in the symptoms. During the past summer a weakness had appeared in the deltoid and in the muscles supplied by the musculospiral nerve. There had been considerable return of power. A fairly large incision had been made at the operation in the region of the mastoid. On inspection the shoulder on the affected side was seen to droop and the scapula hung away from the spine. The only anesthesia observed had been limited to the ear and over the right side of the face—an area corresponding to the supply of the great auricular nerve, which had undoubtedly been cut at the same time. There was now marked hyperesthesia over the distribution of this nerve. When first seen the position of the head had been slightly toward the injured side and a little downward.

Dr. E. D. Fisher suggested that there was a psychical element in the case. He said that on pressing along the muscles of the arm slowly there was no reaction, but if done suddenly there was a spasmodic contraction of the muscles of this region.

Dr. Joseph Collins did not think the whole condition had been explained by Dr. Bailey, for, in his opinion, there were symptoms of root involvement over a rather extended area. He could not understand how these could be explained by mere section of the spinal accessory nerve. The tic of the facial muscles and on either side of the neck and the narrowing of the palpebral fissure appeared to be associated with fibrillary twitchings. This would indicate a rather extensive involvement of the anterior roots in the cervical region. He would also like to know about the condition of the pupils.

Dr. F. Peterson said that he had seen this case before and had been interested in the complications. He had seen the man before the appearance of the twitchings, and on first noting the latter he had been inclined to assume that it was hysterical. However, after having made the electrical examination he had felt sure that it was not hysterical, but a pressure palsy involving a number of nerves, possibly as a result of sleeping with the arm in an upward position.

Dr. Bailey said that the suppurating gland had been situated deeply underneath the sternomastoid. When first seen by him last April there had been a typical picture of paralysis of the sternomastoid and trapezius, but no symptoms referable to the arm, no tics and no functional disorders. The man had been completely incapacitated for work, and this probably explained his psychical condition. The irritative condition of the face was probably explicable by the formation of new connective tissue in the scar. As soon as his attention had been called to the pressure palsy he had been watched at night and prevented from sleeping on his arm, and this had resulted in immediate and decided improvement. It was probable that in time the man would get fairly good use of his arm.

Facial Hemiatrophy.—Dr. Max Mailhouse presented a man, twenty years of age, without neurotic family history, who twenty-two months ago had a discoloration appear on the right side of the face below the lower lid. It had begun as a pale, depressed spot. When first seen by the speaker the right side of the face had been much atrophied and the beard had been absent on this side. The mouth had been drawn to the right and the right half of the tongue was much atrophied. The apparent prominence of the right eyeball was due to retraction of the lower lid. The hair of the right half of the scalp was grayer than on the left and was falling out. He had been losing his teeth on the right side. The nasal cartilage was wasted and its tip was turned to the right. The muscles of mastication were also atrophied, and this was associated with spasmodic pain. There was a fibrillary tremor of the large muscles. The affected muscles reacted feebly to faradization and normally to galvanism. No scleroderma was found. For the past two months there had been twitching of the muscles at the right angle of the mouth, and at times, after laughing, this angle would remain retracted. At such times there was a very tender spot in front of the ear. A blow of moderate severity had been received over the mouth ten years ago. No other etiological element could be elicited, and even this one seemed to have but little weight. The atrophy of the tongue seemed to be a strong argument for the theory that this affection is a trophoneurosis.

Dr. C. L. Dana said that he had met with several such cases and had found them all quite obscure. At one time the view had prevailed that it was a trophoneurosis due to some lesion of the

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trophic root—a condition very difficult to understand. In one of his cases there had been a typical diffuse trigeminal neuritis, occurring in a woman of about forty years. The attack had begun with herpes and neuralgia and had been followed by a general neuralgia in the course of the fifth nerve. After this there had been atrophy and some anesthesia and, finally, a peculiar pitting of the face, like that from smallpox. In another case the trouble had begun, as it often did, with pigmented spots and neuralgia, and this had been followed by anesthesia in spots and a typical progressive anesthesia involving all the tissues, including the masseter muscle and the bone. In this patient there had been deafness and some disturbance of vision on the affected side. It was difficult to understand how a trophic or central lesion could cause all these symptoms. A herpes was almost always a sign of peripheral trouble. Another case had been that of a woman, who had married at the age of seventeen. Her husband had died, it was said, of syphilis a few years later, although the woman denied ever having become infected. She had had a progressive facial hemiatrophy for a number of years and had finally developed atrophy on the same side, affecting the arm and the leg. In none of his cases had there been anything indicating the true nature of the etiology. Perhaps the best explanation was that of a peripheral lesion as a starting-point. He had obtained no definite results from treatment, perhaps because he had not been able to keep these cases under treatment for a sufficient length of time. If the trouble were peripheral, Dercum's idea of resecting the trigeminus seemed to be worthy of consideration.

Dr. J. Fraenkel asked if any difference had been observed in the behavior of the sweat-glands on both sides of the face.

Dr. Mailhouse replied that there had been less sweating on the affected side.

Dr. Joseph Collins thought the disease could be explained just as well by a central as by a local lesion. He was inclined to think that the patient just presented had a lesion in the pons—in the area of central representation of the sympathetic nervous system in the pons. The lesion was probably a slowly progressive one, such as a gliomatosis. There already seemed to be involvement of the motor nuclei in the medulla oblongata. The enlargement of the pupil would be explained by an irritation of the sympathetic which had gone on to paralytic effects.

Progressive Lingual Hemiatrophy.—Dr. C. L. Dana presented in connection with the last case a rather rare form of progressive lingual hemiatrophy. It occurred in a man, twenty-six years of age, who had had the trouble three years, but had been otherwise in perfect health. The half of the tongue was slightly wasting away, and this was associated with fibrillary twitchings. The patient was a healthy young medical student without history of syphilitic infection or nervous heredity. It did not seem to him necessary to suppose that there was a gliosis, for Mendel has already shown that there is a change in the motor root of the trigeminus. Of course, these changes might be secondary to degeneration and partial destruction of the nerve.

Dr. Peterson said he was inclined to believe with Dr. Collins that some central lesion would best explain the condition. He had seen several cases, but all of them in a much earlier stage. In none of them had the tongue or the muscles of mastication been involved, nor had they presented the same pupillary phenomena.

Dr. Mailhouse thought the dilatation of the pupil might be explained by a similar process involving the sphincter pupillæ and causing weakness. Hoffmann had reported some improvement from the use of galvanism for half an hour daily.

MEDICAL ASSOCIATION OF THE GREATER CITY OF NEW YORK.

Annual Meeting, Held at the New York Academy of Medicine, January 14, 1901.

The President, Robert F. Weir, M.D., in the Chair.

Operative Treatment of Umbilical Hernia.—Dr. Joseph A. Blake said that if early operations were done more frequently the results in this class of cases would be more satisfactory. The symptoms met with in umbilical hernias are of two kinds: (1) Those due to the size of the hernia and (2) those due to complications. Hernias which are irreducible on account of omental adhesions are exceeding common. If strangulation occurs, the prognosis is more grave than in inguinal or crural hernia. The statistics of operation are not of much practical service, because of the failure of surgeons to report unsuccessful cases, and because of defective methods employed. According to Bull and Coley, the mortality in irreducible umbilical hernia is 5 per cent., and in strangulated hernia about 60 per cent. Diagrams were presented showing the attenuated condition of the linea alba and the recti muscles. Dr. Blake briefly described the various procedures which had of late years been brought forward by different operators, such as the splitting of the sheaths of the muscles, etc. In speaking of the flap operation (in which the dorsal and ventral sheaths are both made use of), which was first described by Noble, of Philadelphia, in 1896, he said that the great objection was that when a sheath is removed from its muscle it loses its vitality. The operation to which Dr. Blake wished to call special attention was one of which he thought at first that he was the originator, but which he found had been described by both French and German surgeons, working independently of each other and who published their papers within one month of each other. Its main features are separate suture of the peritoneum, lapping of the recti muscles,

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and suturing of the skin. The linea alba is excised above and below. Three different kinds of suture are employed, plain catgut, chromicized, and silkwormgut sutures. Stress is laid on the importance of cleansing all fat from the surfaces. The advantages claimed for the procedure are: (1) The durability of the abdominal wall at the hernial site; (2) the breaking of the lines of sutures; (3) broad surfaces for union. Dr. Blake has performed this operation with perfect success in three cases. Certain modifications were made in accordance with the special conditions existing in each instance. In the first case, that of a multiparous woman of thirty-eight years, with large abdomen and large hernial sac, only a portion of the sac was excised.

Dr. W. B. Coley said that most of the new methods brought forward have very few cases behind them. The one described by Dr. Blake certainly has many advantages, but also some disadvantages. Among the latter are the extensive dissection required, the danger of infection, and the risk of the operation. Prolonged etherization adds materially to the danger. At the same time, if this procedure has greater advantages, one can afford to take additional risks on this account. The main question to general practitioners in these cases is: Is any operation advisable? It was Dr. Coley's opinion that except by the most skilful operators and under the strictest aseptic conditions, no operation should be done. In nine cases of his own he had had nearly 50 per cent. of recurrences. As to whether a patient was better off after a recurrence than before the operation was performed, in his experience the condition was not improved. In one case in which there had been a recurrence one year after an operation by Dr. Bull, and a second recurrence, also within a year, after an operation by himself, the condition was worse than before. Up to the present time the Guzzoni operation had seemed to him the most rational, but he said he would be pleased to give Dr. Blake's method a trial and would hope for better results.

Dr. W. B. De Garmo said that he had always been somewhat at sea in regard to patients with umbilical hernia. Out of many hundred hernial operations performed by him there had been only sixteen for umbilical hernia, and in these cases he was forced to operate. On the whole, he believed now that he had been too conservative, and he was inclined to agree with Dr. Blake that one should not wait too long. He then made the statement that for several years he had been doing this very operation described by Dr. Blake, although he had never made any claim for priority in the matter. His method was not precisely the same in all respects, however, as that of Dr. Blake. In his later cases he had overlapped the abdominal wall without interfering with the peritoneum at all. He thought very favorably of overlapping, and, while he had formerly had about 50 per cent. of recurrences, his results had been better since adopting this plan.

Dr. E. Eliot, Jr., thought that there were some objections to Dr. Blake's operation, as well as a number of advantages in it. He did not see how one could approximate the aponeurotic fibers properly, and the best abdominal operators had always trusted more to the approximation of aponeurotic rather than muscular fibers. It seemed to him that the method was worthy of an extended trial in those cases in which it could be employed without putting the lateral portions of the abdominal wall on the stretch.

Dr. R. T. Morris said that Dr. Blake's method was mechanically attractive, but, from the experience in analogous cases, he was afraid that one would have to anticipate the following results: (1) A progressive thinning of the overlapping fibrous structures, unless the muscular structures should also be brought together. (2) Atrophy resulting from the line of traction of the rectus muscle producing absorption. In cases of diastasis he has been in the habit of taking out the linea alba, suturing the posterior sheath with the peritoneum, and then carrying the suture through the anterior, care being taken that the suture does not enter the fat.

Dr. Weir said that during the last five or six years he had had about a dozen operations. The hernial ring was cut out, the fascia approximated, and the layers sewn together, and the cases had done very well. In his experience he had found two forms of umbilical hernia. In the first there was a rather relaxed abdomen, and an operation was comparatively easy. In the other, with large omentum and abdomen and great tension, it was much more difficult. In some cases it was very difficult to make any overlapping whatever.

In closing the discussion Dr. Blake explained that the dissection involved was not extensive. The subcutaneous fat must be dissected off, but it can be done very quickly. As to the peritoneum, it can be left, if necessary. He did not claim this operation as a new one of his own, and was glad to hear that Dr. De Garmo had performed it successfully. The operation restored the muscles to their normal position; they were not changed in direction.

Cocaine Anesthesia in Eye Affections.—Dr. N. J. Hepburn said that cocaine had stood the test of time, and was still the standard by which other reputed local anesthetics were judged. It was not the object of the paper to speak of it in operations, but as a source of comfort to the patient in various painful affections. In these it was used as an adjuvant, but not to take the place of other remedial agents. It should be used in weak solutions (½ to 1 per cent.). If a 4-per-cent. solution was used it was apt to cause much subsequent suffering and to increase congestion. It was contraindicated in purulent and gonorrheal ophthalmia, and, in general, was of no service in affections of the deeper tissues of the eye.

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NEW YORK ACADEMY OF MEDICINE—SECTION ON ORTHOPEDIC SURGERY.

Stated Meeting, Held December 21, 1900.

Dr. L. W. Ely read a paper entitled "A Few Observations from the Lorenz Clinic," and Dr. H. L. Taylor a resumé of the treatment of Orthopedic Affections at Berck, France.

Reposition of the Congenitally-Dislocated Hip.—Dr. Ely, in a recent visit to Vienna, had spent some time in observing the practice of Lorenz, who was receiving cases of congenital dislocation of the hip from all parts of Europe. The cutting of tendons and instrumental traction were rarely seen. When the head of the bone had been replaced with suitable force and manipulation, the reduction was maintained by a most elaborately-applied plaster-of-Paris spica, which did not include the trunk and extended below only to the knee. The patient was then sent home to stay several months. The results were good and sometimes so brilliant as to justify the enthusiasm of the operator, who believed that when a knowledge of the operation was widely spread reduction would be made at such an early age as to almost preclude the possibility of a failure. The remarkable statistics of successes which had been published had their origin partly in enthusiasm and partly in the undoubted excellence of a method applied with requisite technic.

Dr. H. L. Taylor reported that the experience of Calot in his hospitals at Berck, on the channel coast of France, had showed that the bloodless reduction of congenital dislocation of the hip was applicable in children up to eight years of age, or later, in exceptional cases. Active treatment covered from six to twenty-two weeks and included two or three weeks traction with a weight of from ten to twenty pounds, and at the operation the application of a force of 300 pounds for ten minutes to bring the head of the bone down to or below the acetabulum. When the retaining apparatus was removed massage and training in walking completed the treatment. Patients had recovered without the trace of a limp. He had practically given up the open method. The correct attitude obtained by cutting would be at the expense of limitation of motion or ankylosis, which might be properly sought by this method in certain cases in which replacement was impossible.

Dr. R. H. Sayre had seen Lorenz operate last year in Paris at the Redard clinic. The patient, a child of about eight years of age, was moderately disabled by a single dislocation of the hip. The thigh was made to form an angle of perhaps 20 degrees posterior to the plane of the body. A great amount of force was employed for this and in turning the limb in various directions. The head of the femur could be heard as it popped around on the ilium in what must have been a mass of lacerated tissues. The spica, which was nearly two inches thick where the strain came, included two loose strings for subsequent use in scratching the skin and keeping it clean. The head did not assume a permanent residence in the acetabulum. It was said that it would do so after the child had walked about for a year or two in the spica, a question which would have to be answered in due time.

Dr. C. H. Jaeger had recently spent six weeks at Vienna and reported that the treatment of congenital dislocation at the Lorenz clinic was exclusively by the bloodless method. Double cases were treated singly. The results were very favorable. The spica was applied with great care. Only a thin layer of cotton padding was used. The plaster bandage was applied very snugly, the thigh only being enclosed and a narrow strip going about the pelvis. This left the knee and ankle free and also the whole spinal column. The limb being thus fixed in extension and abduction, the patient soon learned to walk without crutches and with (in single cases) a high sole on the sick foot. It was most interesting to see a child with double dislocation, with both legs strongly abducted, spread eagle fashion, walking beautifully, hopping with one leg, then the other without a stick or help of any kind. Lorenz was accustomed to lay great weight on having the parents of the patient extend the knee many times daily, to prevent contracture. In opposition to these views Hoffa strongly advocated the open method.

Dr. W. R. Townsend said that Hoffa had stated in very positive terms that none other than the bloody operation could be of any use. An American authority also had reported that in a large number of open operations only two or three had exposed an acetabulum in which it was possible to place the head. The views and practice of Lorenz, however, were those of one whose experience with the open operation had been greater than that of all other operators combined.

In one of the dissections reported by Dr. E. H. Bradford the capsule had been found pushed in front of the head of the bone in such a manner that a perfect reduction could not be made. This had led to the suggestion that in some cases the open operation might be modified by slitting the capsule instead of gouging or boring the bone which might lead to ankylosis or limited motion.

Dr. Jaeger thought that Hoffa was dissatisfied with the bloodless procedure partly because of the position in which he fixed the limb after reduction of the deformity. He applied the spica with the limb in extension and strong inward rotation, which could not afford a very firm hold for the femoral head in the acetabulum. In this position it was probable that reluxation would occur during the application of the bandage or on the first attempt at walking.

Dr. G. R. Elliott had passed several weeks with Lorenz in 1896 and had seen him operate

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many times by the non-cutting method, having already begun to discredit the cutting operation, which he had done so much to perfect. There could be no possible doubt of the good results obtained. He had seen many instances and had repeated them in his own practice. Success lay in the thoroughness of the procedure and in the perfection of the technic. (1) The head of the bone should be brought down to the level of the acetabulum. (2) It should be lifted over the posterior edge of the acetabulum. (3) Abduction should be extreme, even posterior to the mid-plane of the body. (4) The plaster bandage should be pressed posteriorly against the joint to keep the reduced head from slipping backward. Great force was often required, but neglect of any point would leave the head of the femur resting on the posterior acetabular edge to be dislocated as soon as the bandage was removed. Lack of success would be due to want of technic leading to imperfect reduction. Thorough padding was necessary beneath the bandage. Blood had appeared in the urine of a patient operated on by him last week. The child had been laid face downward to facilitate fortifying the splint posteriorly and the soft plaster bandage had pressed against the abdomen and hardened. Cutting the bandage relieved pressure and the blood disappeared.

Sea-Air for Tuberculous and Rickety Patients.—Dr. Taylor, in his review of the treatment at Berck, said that Calot was an enthusiastic advocate of sea-air for patients affected with external or peripheral tuberculous lesions, those of the skin, glands, bones and joints. He rejected phosphorus in the treatment of rickets, prescribing intestinal antiseptics and a diet mainly of milk and eggs. Many of his patients were kept recumbent. He affirmed that rickety deformities would disappear during a sojourn at the seaside.

Dr. Sayre had listened to Calot as he described the advantages of seaside treatment. His interest in the subject was shared by others of his countrymen, whose native enthusiasm perhaps lent a too rose-colored light to their views.

Dr. Taylor had been impressed with the picturesque quality of Calot's writings. His zeal often broke through the conventional boundaries of scientific composition. The reader was entertained and delighted but not necessarily convinced.

Treatment of Pott's Disease.—Dr. Ely said that Lorenz used a corset composed of perforated strips of celluloid, metal bands and canvas. It laced in front and was probably sufficiently comfortable, but could not be said to "splint the spine."

Dr. Taylor said that although Calot declared that neither braces, plaster jackets nor corsets could prevent or arrest the deformity, all of his patients wore the plaster jacket after subjection to manual pressure directed against the kyphos. In certain cases ablation of the spinous processes without invasion of the tuberculous territory was recommended in order to facilitate correction and avoid sores from pressure of the jacket. The use of suspension, the amount of manual pressure and the degree of lordosis to be enforced were points to be settled for each case. Severe pressure and all traumatisms were to be carefully avoided, in marked contrast with the violent proceedings which called attention to the name of Calot in 1896, when he was claiming uniformly-brilliant results from the outlay of all his strength on the kyphos, supplemented with cuneiform resections in obstinate cases.

Dr. Sayre said that Calot's recent methods, as he had heard him describe them, varied but little from those of Dr. L. A. Sayre when he introduced suspension and plaster-of-Paris jackets. Calot had, however, secured a distinct advantage in extending the jacket up to the chin instead of stopping at the top of the sternum, thus promoting lordosis even of the lumbar spine and gaining a leverage over the entire spine which was impossible when the upper part of the vertebral column was free.

Treatment of Joint Diseases.—Dr. Ely said that at the Lorenz clinic joint diseases generally were treated by retention in plaster of Paris. The spica for hip-disease usually had an iron stirrup running down from the bottom to take up the weight of the body.

Dr. Taylor said that Calot very justly believed that a stiff joint in a good position was better than a movable joint in a bad position. It was his practice to reduce the deformity by force and retain the improvement with a plaster spica. Complete anchylosis in a bad position required subcutaneous osteotomy of the femoral neck.

Treatment of Abscesses.—Dr. Jaeger had noticed fewer abscesses in patients affected with hip-disease at Vienna than in patients of the same kind in America, which was not easy to explain except by climatic differences, as the poor there were poorer, and their nourishment probably worse than in this country.

Dr. Taylor said that Calot forbade incision, curetting and excision in Pott's and hip-disease, unless the joint or abscess was infected or a sequestrum was found. He took the ground that patients affected with these diseases practically always got well under closed treatment and always died under the open treatment. Abscesses were to be treated by roborant drugs, a full diet, correct hygiene and rest. A cold abscess might be aspirated through healthy tissue and medicated by injections. By repeated aspirations and the application of compresses and bandages openings which seemed inevitable might be averted and in from four to eight weeks the abscess would disappear without a scar and with healing of the bone in most cases. It was interesting to note that we had (1) in Calot a surgeon of ten years active experience, formerly an advocate of scraping, incisions and excisions, with the reputation of having done

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80 excisions of the hip, who was now aggressively opposed to the operative treatment of diseases of the joints, and (2) in Lorenz a surgeon of great experience in the cutting treatment of congenital dislocation of the hip who had given it up in favor of a bloodless method. The coincidence and the contrast between the recent past and the present were quite impressive.

Lateral Curvature from Division of the Spinal Accessory Nerve.—Dr. R. A. Hibbs related a case as follows: A girl, fourteen years old, had had glands removed from the left side of the neck six months before she was first seen a few days ago. There was spinal curvature toward the right with drooping of the left shoulder, paralysis and atrophy of the trapezius and marked disability of the left arm. The patient declined an operation for uniting the ends of the spinal accessory nerve, which had evidently been severed at the point where it pierced the sternocleidomastoid muscle.

Dr. Myers recalled the case of a similar patient, fifteen years of age, whom he had been observing for three or four years. He saw her eighteen months after the paralysis, and considerable permanent atrophy of the muscles of the shoulder had set in. There was spinal curvature toward the opposite side which did not go on to be extreme and was easily controlled.

Fracture of Cervical Vertebræ.—Dr. Sayre related the case of a man who was carried home unconscious after a fall on the head and neck about two months ago. On regaining consciousness there was paralysis of the extremities, bladder and rectum, in which there was slow improvement after two days. As every attempt to walk increased his symptoms he was kept in bed several weeks. A diagnosis of fracture and dislocation of the fifth and sixth cervical vertebræ was made on his history, the flexion of the head, the absence of motion of the head and neck, difficulty in swallowing and the disability of the left upper extremity. The diagnosis was confirmed by skiagraphs, of which it had been necessary to take several from different points of view. One of the negatives was taken after fastening a bandage tightly over one shoulder and under the opposite arm-pit so as to make a gulch in which one edge of the plate had been forced as far as it would go. The skiagraphs and a brace were exhibited. The latter consisted of a leather and steel collar attached to posterior steel rods and a pelvis belt. The head and neck would be thus fixed until consolidation was assured, the brace being capable of easy modification from time to time as the patient improved. He recalled an almost exact counterpart in a case which occurred several years ago in which the application of a jacket and jury-mast had been followed by disappearance of the paralysis.

Pneumatic Perineal Straps.—Dr. Myers exhibited rubber tubes, 10 inches long and 1¼ inches in diameter, designed to take the place of the ordinary perineal straps. Smaller sizes were also made. Each tube was provided with a removable cover of canton flannel and a valve for inflation by a bicycle pump. The straps were not elastic. They were expensive, but very durable. The pressure made by them was equalized automatically and that made them especially comfortable for older children and adults whose weight made perineal support difficult.

BOOK REVIEWS.

TEXT-BOOK OF THE EMBRYOLOGY OF INVERTEBRATES. By Drs. E. KORSCHELT and K. HEIDER. Vol. IV. Higher Invertebrates. The Macmillan Co., New York.

WE have referred in an earlier review of the three preceding volumes to the classical value of this Embryology. It is pleasing to have the work completed in the excellent manner in which it began and students of zöology are to be congratulated on having this excellent volume in English.

ESSENTIALS OF HISTOLOGY. By LOUIS LEROY, B.S., M.D., Professor of Histology and Pathology in the Vanderbilt University, Medical and Dental Departments, etc. 1900. W. B. Saunders & Company, Philadelphia.

THIS little book contains within a limited space and in a convenient form the essential facts relating to histology. Naturally enough nothing new has been found. The book is merely an epitome of more comprehensive texts. Each section is followed by a series of questions, the mastery of which insures knowledge of the salient points of the subject discussed. As far as it goes the text is reliable.

PROGRESSIVE MEDICINE. A Quarterly Digest of Advances in the Medical and Surgical Sciences. Edited by HOBART AMORY HARE, M.D. Volume IV. December, 1900. Lea Brothers & Co., Philadelphia and New York, 1900.

THE present volume of "Progressive Medicine" contains a review of the diseases of the digestive tract and allied organs, the liver, pancreas and peritoneum, by Max Einhorn, M.D.; genito-urinary diseases and syphilis, by William T. Belfield, M.D.; fractures, dislocations, amputations, surgery of the extremities and orthopedics, by Joseph C. Bloodgood, M.D.; diseases of the kidneys, by John Rose Bradford, M.D.; physiology, by Albert P. Brubaker, M.D.; hygiene, by Henry B. Baker, M.D., and a practical therapeutic referendum, by E. Q. Thornton, M.D.

Dr. Einhorn is a recent addition to Dr. Hare's corps of subeditors. His first article, on diseases of the digestive tract, shows that the readers of "Progressive Medicine" are to be especially well cared for in the matter of being kept up to date in gastro-intestinal nosology. There are discussions of the test-meal, of the gastric douche with double current, of the stomach powder-blower, and of molds in the stomach, that are of particular in-

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terest to the stomach specialist. There is a very interesting review of the symptomatology of pancreatic disease. The following shows how practically our knowledge of diseases the pancreas is developing: "The attack which culminates in pancreatitis is often one of several, not differing in its inception from others already recovered from, except in its severity and persistence. This is particularly the case with alcoholics, who are exceedingly fond of calling themselves 'bilious' (whatever that may mean) and taking their blue mass to get straightened out from their indiscretion."

In the chapter on surgery of the extremities and orthopedics there is a very interesting review of the recent literature of gonorrheal arthritis which shows how much additional significance has accrued to this disease in recent years. In the chapter on diseases of the kidneys there is a very suggestive discussion of the relation of Bright's disease to syphilis. The question of prescribing mercury, even in the form of a purge, to patients suffering from renal disease, is taken up. Far from being considered harmful, as some claim, mercurial salts are set down as ideally beneficial in many of these cases, because of their purgative and slightly diuretic action.

The practical therapeutic referendum contains a series of prescriptions with discussion of their merits and mode of administration, and shows what new drugs have recently proved worthy of attention and how they can be best prescribed. It constitutes a valuable reference for the busy practitioner who hears of new drugs through the trade and wonders what their real clinical and scientific value may be.

A TEXT-BOOK UPON THE PATHOGENIC BACTERIA FOR STUDENTS OF MEDICINE AND PHYSICIANS. By JOSEPH MCFARLAND, M.D., Professor of Pathology in the Medico-Chirurgical College, Philadelphia; Pathologist to the Medico-Chirurgical Hospital, Philadelphia. Third Edition. W. B. Saunders & Company, Philadelphia.

THE problem of insistent revision is ever presenting itself to those who have written on medical topics; in no subject is this more conspicuous than in the subject of bacteriology. The gradual but steady specialization that has taken place in the science, especially in relation to the public health and industries, has given us so much information on many themes that newer editions must perforce be brought to meet the demands of shifting and newer positions. Dr. McFarland has done his part so conscientiously that his book has met with corresponding success. Coming from a careful man, who has had such great experience, this was to be expected.

This edition has been considerably revised, and is chiefly characterized by a more consistent and uniform general treatment. Suppuration, from a purely bacteriological point of view, is well treated for the purposes of the student and physician. The chapter on tuberculosis is excellent; we are surprised, however, to still find that the Hirschfelder oxytuberculine has been retained. Facts do not warrant this. The article on diphtheria is one of the best in the book and clearly sums up in a concise form our present views on this very important disease. The other sections are equally good. We further congratulate the author for his wisdom in introducing that important section on the standardization of media, so ably advocated by George W. Fuller (not Tuller) in 1895 and since urged by the Committee of Bacteriologists of the American Public Health Association.

We unreservedly recommend this book to those seeking general bacteriological information; its treatment is sufficiently flexible to appeal to both students and physicians.

A MANUAL OF SURGICAL TREATMENT. By W. WATSON CHEYNE, M.B., F.R.C.S., F.R.S., Professor of Surgery in King's College, London, and F. F. BURGHARD, M.D., and M.S. (Lond.), F.R.C.S., Teacher of Practical Surgery in King's College, London. Volume IV. The Treatment of the Surgical Affections of the Joints (Including Excisions) and the Spine. Lea Brothers & Co., Philadelphia and New York.

THE fourth volume of this thorough and excellent manual deals with the surgery of the joints. Dislocations, sprains and wounds are first considered. The diseases of joints in general, followed by those in particular, are next considered. The volume closes with the spinal diseases of surgical import—injuries, spina bifida, kyphosis and scoliosis, tuberculous disease and tumors.

Under the treatment of sprains, no mention of the ambulatory method is made. The authors recommend, however, early and continued massage, the injured member meanwhile being encased in a light splint.

The various methods of diagnosis and well-known forms of treatment of the different dislocations are given in detail. Perhaps the best chapter in the volume is the one on articular tuberculosis which is a splendidly-condensed epitome of present-day knowledge on the subject. Orthopedic appliances are fully described and in an appendix is given an elaborate series of "medical gymnastic exercises" well illustrated. Spina bifida is treated either by injection or by operation, the indications for each method being described.

Altogether this volume forms a fitting companion to its predecessors, although, contrary to their rule, several operative procedures are here described by the authors.

BOOKS RECEIVED.

The MEDICAL NEWS *acknowledges the receipt of the following new publications. Reviews of those possessing special interest for the readers of the* MEDICAL NEWS *will appear shortly.*

PROCEEDINGS OF THE AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION AT THE FIFTY-SIXTH ANNUAL MEETING, held in Richmond, Virginia, May 22-25, 1900.

UTERINE TUMOURS. Their Pathology and Treatment. By Dr. W. Roger Williams. 8vo, 359 pages. Illustrated. William Wood & Company.

INTRODUCTION TO THE STUDY OF MEDICINE. By Dr. G. H. Roger. Authorized Translation by Dr. M. S. Gabriel. 8vo, 546 pages. D. Appleton & Company, New York.

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THE MEDICAL NEWS.

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ORIGINAL ARTICLES.

VERATRUM VIRIDE; ITS VALUE IN SOME CONDITIONS OF TOXEMIA.[1]

BY A. B. ISHAM, M.D.,
OF CINCINNATI.

IN the medicine of to-day veratrum viride finds but limited employment. The traditions and writings of the "Fathers" are yet sufficiently regarded, however, outside of the medical centers to maintain for this drug a place in the armamentarium of most country practitioners. But, since the advent of pilocarpine, the teachers of materia medica and of therapeutics have given veratrum viride such scant consideration that the physicians of the past fifteen years, particularly in cities, are practically unacquainted with the virtues of this potent medicinal agent. Of four drug-stores in Clifton and Mt. Auburn to which a prescription for Norwood's tincture was sent, a short time since, only one had a supply of the preparation. At the others it was said that there had never before been a call for it.

Perhaps, however, the object of this endeavor may be better pursued by eschewing verbiage and furnishing instead a series of clinical illustrations in the form of case reports. The six cases to follow are all of peritonitis, without exception undoubtedly having origin in appendicitis. The number does not, by any means, exhaust all cases of the same character coming under observation, but six cases afford, in the newspaper vernacular, "sufficient evidence of good faith," and the others are reserved as "not necessarily for publication." It is presumed that the cases are germane to the caption of the paper, and that it is not requisite here to argue that a state of toxemia exists with peritonitis.

Case I.—W. B., American, married, aged forty-two years, was seen June 30, 1876. Had pain in right iliac region, radiating over abdomen, of a paroxysmal nature, pulse 100, temperature, 100.2° F. Tenderness and tumefaction in right iliac region. Had suffered slight pain, with tenderness upon deep pressure, for several days, together with constipation. Free action of the bowels was obtained through the administration of calomel and salts and the use of enemas. The abdomen was generally tender to pressure, but soft, except in the right iliac region. There was pain, increasing during the night, and hypodermatic injections of morphine were given with relief. July 1st, general abdominal pain, distention and hardness; pulse, 120; temperature, 104° F.; delirium. Diagnosis, perityphlitis and general peritonitis. Treatment, veratrum viride, eight drops, every two hours, and hot turpentine stupes. The veratrum was continued in eight-drop doses until free perspiration and nausea occurred, together with a lowering of the pulse-rate, when the dose was reduced to four drops every two or three hours. Free diaphoresis took place during the night. By the morning of July 2d the pulse was reduced to 68; temperature 100.5° F.; the abdomen was less tumid and tender, there was still nausea, the skin was moist, and, while the patient was somnolent, there was no delirium. In fact all the evidences of resolution were at hand, which progressed steadily until the 8th, when he was discharged convalescent. There was still some induration in the right iliac region, with slight tenderness. He never had any further abdominal trouble and is alive and well to-day.

Case II.—G. K., American, widower, aged twenty-seven years, was seized with severe pain over the abdomen the night of April 21, 1880, which was relieved by hypodermatic injection of morphine and he rested through the night. On the 22d his pulse was 96; temperature 101° F. There was some induration in right iliac region, with tenderness. Bowels were thoroughly emptied by calomel, salts and enemas. In the evening the pulse was 110; temperature, 102.5° F.; some distention of abdomen and general tenderness over it, which increased until on the morning of the 23d the pulse was 125 and temperature 104.5° F. The abdomen was tumid and hard and there was delirium. The veratrum viride was given as in the former case and hot turpentine stupes were employed. The diagnosis was perityphlitis and general peritonitis. On this day—the 23d—Dr. Reamy and the late Dr. Keyt saw the case in consultation and concurred in the diagnosis and treatment. By the morning of the 24th satisfactory evidences of resolution were present in a lowering of pulse and temperature, less tumefaction of the abdomen, and a restoration to consciousness. The patient recovered slowly and was discharged convalescent May 23d. At that time there was still some induration and tenderness in the right iliac region. This eventuated in an abscess which was incised September 23, 1880, and exit given to about two ounces of fetid pus. The opening discharged for a week and then healed. There has been no trouble since, except that about five years ago he suffered an oblique inguinal hernia at the site of the incision.

Case III.—Mrs. E. T., American, widow, aged seventy-two years, first seen November 16, 1886. Paroxysmal pain over abdomen, more marked in right iliac region, where there was a small induration. Had been constipated. Pulse, 84;

[1] Read before the Academy of Medicine, Cincinnati, December 3, 1900.

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temperature, 99.5° F. Bowels were completely evacuated with calomel, salts and enemas. On the 17th pain was increased, more marked tenderness over abdomen, which was everywhere distended and tympanitic. Pulse, 118; temperature, 103° F.; wild delirium. Diagnosis, perityphlitis and general peritonitis. Veratrum viride and hot turpentine stupes were employed as in the previous cases. By the 18th resolution was well established. After this, while she had no active febrile condition or noteworthy disturbance, she remained completely helpless and did not gain strength. On the 29th she began to have slight rigors, followed by perspiration. The skin in the right iliac region above Poupart's ligament was then noticed to be puffy and edematous; there was quite an area of dulness and tumefaction in this locality and it was apparent that an abscess was forming. On the 30th Dr. N. P. Dandridge was called in consultation. By careful dissection he opened, but did not expose, the abscess cavity, from which a half pint of most offensive pus was evacuated. This continued to discharge for about a week, and in two weeks was entirely healed. December 17th she was discharged convalescent. She never had any other abdominal trouble, except hernia, and died in her eighty-fourth year from cerebral hemorrhage.

Case IV.—Mrs. M., American, married, twenty-two years of age, was confined with her first child November 3, 1894, and was safely delivered of a vigorous male child, after an unusually difficult forceps delivery. She seemed but little affected by the severe experience, and attendance upon her ceased on the 16th, at which time she was in all respects perfectly normal, and she was left in the care of a trained nurse from Christ's Hospital. Was called again to see her on the 24th, when it was found that the nurse had permitted her to go without a movement of the bowels for seven days. She was in great distress, abdomen distended, lumpy and tender, particularly in the right iliac region. The temperature ranged between 100° and 102° F.; the pulse varied from 96 to 120. It was not before the 27th, by the use of oil, calomel, salts, all forms of enemas and high injections, that the intestinal canal was satisfactorily evacuated. By this time a general peritonitis was in full flower, which was treated as in the other cases reported and with the same success, so that by the 29th resolution was well established. She was discharged convalescent January 1, 1895. At that time an induration as large as a walnut yet remained on the right side in a line drawn from the superior iliac spine to the umbilicus, which was tender upon pressure. It wholly disappeared after the lapse of several months, but she had relapses of pain and tenderness, accompanying constipation at irregular intervals of two, three or four months, and only within the past two years has she ceased to have any disturbance therefrom.

Case V.—B. O., American, aged fourteen years, an unusually large, stout girl for her age, was seized with severe abdominal pain November 27, 1899. She had not been feeling well for several days, having no desire for food and complaining of spasmodic pain, of light character, over the abdomen. Bowels inactive; slight tumefaction in right inguinal region. Calomel, rhubarb and salts produced free liquid stools, and hot fermentations were employed for relief of pain. Notwithstanding, a high grade of peritonitis was set up the night of the 28th, with violent delirium and a temperature reaching at the highest 105° F. The veratrum viride and hot turpentine stupes formed the treatment, as in the preceding cases, and after four days of anxious ministrations it was a supreme satisfaction to have resolution inaugurated on December 2d. She was discharged convalescent on the 10th. At that time there remained some induration in the right iliac region, and tenderness upon deep pressure. This wholly disappeared in the course of a month.

Case VI.—J. O'C., American, married, aged twenty-seven years, was seen in consultation with Dr. A. C. Poole May 22, 1900. Dr. Poole had been called to him the previous evening by reason of his suffering from severe abdominal pain, for which morphine was hypodermatically injected with relief. Condition at the consultation: Abdomen greatly distended, hard, tender, more particularly in right iliac region, where there was a feeling of induration. Patient said that he had taken cold from exposure in the Fire Department and that his bowels had been torpid. Temperature, 103.8° F.; pulse, 125; restless and clamorous for relief; semi-delirious. Diagnosis, general peritonitis and probable appendicitis. At Dr. Poole's request I assumed charge of the case. Free action of the bowels was induced by calomel, salts and enemas, and veratrum viride and hot turpentine stupes were employed. To show the unpromising nature of the case it may be narrated, upon the authority of Dr. Poole and the people of the house, that a surgeon, who had been called in consultation earlier in the morning, had advised removal to a hospital and immediate operation as the only chance for the patient's life. As a result of the means instituted resolution was well advanced on the 24th, and June 10th he was discharged convalescent, at which time there was some tumefaction in the right iliac region, although no marked induration. He has since been perfectly well in all respects and is now doing duty in the City Fire Department.

In all the cases it will be noted that there existed at the commencement a condition of obstipation. With a torpid and distended bowel, there must necessarily occur a change in its relative position to the appendix, as well as a variation in the form and size of the appendical opening into the intestine. It is conceived under such circumstances that products of fermentation or decomposition might find entrance into the appendix, set up a catarrhal inflamma-

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tion, and toxins be developed through the influence of pathogenic organisms. These may be neutralized by alexins and no damage result; or plastic lymph may be formed, walling in the appendix, local abscess may ensue, finding exit either into the bowel or externally, with sloughing off of the appendix, after which healing takes place and all is right again, with the exception of the adhesions that have formed during the process. Yet again, as in the series of cases presented, the septic material formed passes over into the absorbents in the peritoneum and a general peritonitis lights up, which may not stop short of a general infection. Particularly may the muscular substance of the heart rapidly undergo pathological alterations and death ensue with astounding suddenness. This may even obtain when there has been no sign of toxemia, no peritonitis, no general infection and when the temperature and pulse have followed nearly the normal standard for days.

Another form of toxemia is now to be offered for consideration in the way of a series of clinical histories:

Case I.—Mrs. B. S., German, widow, aged seventy-three years, was seized with convulsions December 28, 1891. She was unconscious, had stertorous breathing, pulse 126, of moderate force and volume. Temperature was not obtained. The catheter was passed and a tablespoonful of urine, which was slightly albuminous was secured. Suppression of urine. Injected twenty-five drops of veratrum viride hypodermatically. Then followed within half an hour free perspiration, salivation and vomiting of bile. Consciousness returned within an hour, when temperature was normal and pulse 66. She was sitting up next day apparently well, but weak. She is still living and in good health at the age of eighty-four years.

Case II.—Mrs. B., colored, married, fifty years of age. Was seized with convulsions in night of August 27, 1894. At time of my visit she was unconscious, breathing stertorously. Temperature, 103° F.; pulse, rapid, full and bounding. Twenty-five drops of veratrum viride were administered hypodermatically. In an hour temperature was reduced to normal, and there was free perspiration and retching of bile; pulse, 70; sleeping quietly. Was engaged in her domestic duties on the 29th.

Case III.—K. G., infant, nine months of age, had been ill with enterocolitis since March 12, 1897. It had become greatly emaciated, when it was taken with carpopedal spasms March 23, 1897. There was complete unconsciousness. Temperature 104° F. Twelve drops of veratrum viride were at once injected hypodermatically. It promptly reduced the temperature, producing diaphoresis and vomiting of bile. Consciousness was soon restored. During the intervals of retching the child slept peacefully, perfectly relaxed. It was afterward able to retain and assimilate nourishment and complete recovery was established.

Case IV.—J. B., married, Scotch-Irish, seventy-three years of age. Had enlarged prostate with retention of urine occasionally, for which it had been necessary to catheterize him at various times. On September 11, 1897, which was an exceedingly hot sultry day, with the atmospheric temperature at 96° F., he suddenly became unconscious and slight spasmodic movements of the arms and legs occurred. When reached he was wholly unconscious, quiescent, breathing stertorously—with Cheyne-Stokes respiration—and had passed feces in bed. Pulse, 132, full and bounding; temperature, 105.5° F.; urine suppressed. Catheterization obtained little more than a teaspoonful; no albumin. It was considered a case of heat-stroke with uremia. Thirty drops of veratrum viride were injected hypodermatically. Within half an hour the temperature was reduced to 100.5° F., and the pulse to 84. Consciousness returned within an hour. As in the other cases there was copious perspiration and salivation, with free vomiting of bile. Discharged convalescent September 15th. He had another similar experience June 27, 1898, when the atmospheric temperature was "well up in the nineties." This time the temperature in the axilla was 105° F. Twenty-five drops of veratrum viride were hypodermatically injected with the same good effect as before. The body temperature went up again on the two succeeding days and the hypodermic injections of veratrum were repeated with the same result. Discharged convalescent July 6th. He died April 2, 1900, of secondary nephritis consequent upon the prostatic enlargement and catheterization.

Case V.—B. W., American, married, aged sixty-five years, a very stout man, was seized with convulsions April 12, 1898. He was found unconscious and with stertorous breathing. Pulse was rapid and weak; temperature, 100° F. Sample of urine obtained next day of normal reaction. Injected hypodermatically twenty-five drops of veratrum viride. This was followed by free perspiration and retching of bile, and return to consciousness ensued in due time. Next day was attending to his ordinary duties. Died suddenly March 23, 1899. Was taken with a chill in a street-car and just as he reached his home, he expired with all the symptoms of pulmonary engorgement.

Case VI.—Mrs. O., American, widow, aged sixty-two years, was visited the night of July 16, 1900. She had been seized with convulsions of face and arms of moderate severity. Was delirious, rolling about in the bed; pupils somewhat dilated, with a wild and staring appearance of eyes. Temperature, 101.4° F.; pulse, feeble and frequent. Twenty-five drops of veratrum viride were injected hypodermatically. Free perspiration, salivation and retching of bile ensued with restoration to consciousness and restfulness.

To the above may be appended a case of different character, yet nevertheless one of toxemia induced by pneumococci.

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Case VII.—J. G., a vigorous man, eighty years of age, was taken with severe pain in lower, anterior portion of right chest the evening of March 17, 1900. He had a loud, blowing, systolic murmur, most accentuated at apex of heart, but generally diffused, which had existed for some time and which, in all likelihood, was due to calcareous deposits upon the edges of the mitral valves. He was breathing rapidly and with difficulty, had a short, hacking cough, was semi-delirious, and constantly insisted on getting out of bed. Temperature, 102.6° F.; pulse, 120. There was dulness on percussion over a circumscribed portion of the lower lobe of the right lung anteriorly, and fine crepitation corresponding to the area of dulness. He had passed freely urine of normal reaction. Twenty-five drops of veratrum viride were injected hypodermatically. Free perspiration, salivation and retching of bile followed in due order. The temperature fell to 99° F. and the pulse to 58. Pain and delirium ceased and he rested easily the balance of the night. The temperature showing a tendency to rise next day, the veratrum was exhibited by mouth in four-drop doses every two hours. The cough loosened and there was expectoration of streaked mucus. He progressed steadily and was discharged convalescent March 21st, after an illness of five days.

Another case is added because it may possibly have been one of toxemia, although I regard it as one of gastralgia and hysteria in the male.

Case VIII.—J. S., American, aged twenty-eight years, widower, lost his wife last January in Frankfort, Ky., from puerpural convulsions. He had convulsions himself at the time of her death. Subsequently he removed to Portsmouth, Ohio, where he had several attacks of convulsions. He was considered in grave danger of losing his life each time and recovery was slow. Was treated each time by morphine hypodermically. I saw him July 13, 1900, in tonic convulsions, so that it required the utmost efforts of two strong men to hold him on the bed. He was apparently unconscious. I learned that he had eaten a hearty supper of boiled beef, cabbage, dumplings and Swiss cheese. Upon retracting the lids the pupils were normal and the balls were rolled upward and inward to avoid the light. Thirty drops of veratrum viride were injected hypodermatically. In a few minutes his stomach was emptied of an enormous quantity of material. Free perspiration and salivation followed, with continued retching of bile; consciousness returned. There were no more convulsions and he rested quietly through the night. The next day he was able to sit up, but was sore from the muscular exertion of the night before. He was given directions as to diet, a dissertation upon the efficacy of will power in controlling reflexes, and was told to take one ounce of linseed oil twice daily—morning and evening. He has remained well since. In this connection the suggestion arises that veratrum viride may prove a valuable agent, on account of its relaxing properties, in gastralgia from muscular spasm of the stomach pylorus, and in cases of hepatic colic from the passage of gall-stones through the ducts. By its employment in such conditions one may possibly dispense entirely with the use of morphine hypodermatically.

The knotty problem of elucidating the *modus operandi* by virtue of which this drug is enabled to display its beneficial attributes, now presents itself. After its administration the effects first observed are referable to the glandular system. The sudoriferous glands are excited to activity, the skin becomes bathed with sweat, and in some cases it is poured out over the whole surface of the body in such quantity that the patient appears to have been drenched with water. The salivary glands also pour out their secretion abundantly and there is drooling from the mouth; sometimes, however, when there is most copious perspiration, salivation is not prominent. In all cases there is vomiting or retching of bile, and the quantity of this fluid brought up in many instances is so great as to preclude the idea that it is simply the contents of the gall-bladder which has undergone evacuation through the stomach by way of the intestine. The capacity of the gall-bladder is stated not to exceed an ounce and a half, and more than this quantity of fluid has been observed to be ejected in a single effort at retching, after all the residual contents of the gall-bladder and stomach must have been expelled. The cells of the liver are undoubtedly excited to greatly increased activity through a direct action of the drug upon them. This excitation of the salivary and sweat-glands has been ascribed by investigators to vasomotor paralysis and consequent decrease in pressure in the peripheral blood-vessels, but there is never noted such an outpouring of fluids in cases of spinal injury with apparently complete vasomotor paralysis. In addition to this vasomotor influence, there must be some excitatory action of the drug upon the gland-cell. In the case of jaborandi, a congener of veratrum viride, H. C. Wood, Jr.,[1] admits as probable a special action upon the salivary gland-cells, which he does not accept for the latter agent. For all the evidence adduced to the contrary by experimenters, in the light of clinical observation we may claim that veratrum viride, in addition to its effects upon vasomotor functions, exerts some stimulating influence on the cells of the liver, salivary and sweat-glands.

These glandular phenomena have a therapeutic significance not to be passed over lightly. The activity of the salivary glands is, perhaps, of much less importance in toxemias than that of either the liver or sweat-glands. But we know that the salivary glands take up toxic substances from the system which are excreted by the mouth and that potassium sulphocyanide is contained constantly in the secretions, elaborated from the blood by the cells within the glands, showing that they possess within themselves a power of trans-

[1] Therapeutics, Materia Medica and Toxicology, Third Edition, p. 514.

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formation upon materials recognized as poisons. These properties of the salivary organs, under the stimulus of the green hellebore, may exercise a very considerable power in neutralizing and removing leucomaines and toxins.

The liver is the largest glandular organ of the body. It was long ago determined that one of ...nctions was the destruction, within its substance, of matters inimical to the organism. Concerning the method by which this is accomplished there is no definite information. When the position of the liver is considered, its large size, its nearness to all the organs concerned in digestion and blood-formation, stimulation of its energies, as by veratrum viride, to many times the normal value of its work must greatly increase its efficiency in disposing of toxic material brought to it from the abdomen by the portal vein and from all over the system by the hepatic artery. It is a factor in the conservation of life under conditions of toxemia of no secondary value. The retching and vomiting induced by the drug also indirectly spur up the liver to increased secretion, through muscular action and siphonage. It is likewise, undoubtedly, indicative of a hyperactivity of the cells of the stomach, brought about through the instrumentality of the medicament under deliberation.

The most striking of all the issues proceeding from a sufficient dose of veratrum viride is, of course, the profuse skin transpiration because it is visible upon the surface. This, as made manifest in some of the case reports preceding, lowers the temperature of the body, where it is elevated above the normal, in one instance effecting a reduction of five degrees Fahrenheit, and that within a short time. It always acts promptly in lowering temperature, when above the normal, through the cooling that happens from evaporation over the whole body surface. The removal of waste and pernicious elements which this immense transudation involves may, by checking metabolism, so tranquilize the heat-centers as to arrest heat-production; or, the cooling which follows the pouring out of the surface flood may be competent to quiet the irritability of the heat centers. Or, yet again, after such an overflow and withdrawal of the fluids of the body, in the general acceptation of the neuron-theory, there must be some retraction of nervous processes from a lack of distending fluid to maintain them in contiguity. This should cut off the centers from further control in heat-production. But it has a yet wider interpretation, which is borne out by the clinical fact that there is a state of somnolence under full doses of veratrum viride that, by a retraction of the nervous processes, reflexes are cut off and there is no passage over of irritations from center to periphery, or from periphery to center. It is not altogether improbable that this explains the behavior of veratrum viride toward the nervous system better than the bare statements that it is "a depressant to the spinal cord" or "acts upon the motor side of the cord."

The theory just enunciated may be dubbed the mechanical theory of action, but it receives confirmation by the conduct of the heart under veratrum viride. From rapid, inordinate effort this muscular engine is slowed and quieted. This does not come about through an inhibitory power conveyed by the pneumogastric, but by the action of the drug upon the heart-muscle itself or its ganglia. It induces in the heart-muscle, as in the nervous tissues, a retraction or contraction —for heart-muscle does not retract much—which is a conservative process in that it squeezes out from the fibrils all waste and noxious products, brings the organ down from a distended overacting mechanism to one working in perfect order and to the best advantage. In this way it protects the heart-muscle from the pathological changes that so often accompany toxemias.

It is also worthy of note that a reduction of the body-heat to the normal, or approximately so, retards greatly the activity and multiplication of pathogenic organisms. Conversely, phagocytosis continues energetically, the destruction of harmful microbes goes on unhindered—a process of great consequence in overcoming toxemia.

There remains another toxemia in which veratrum viride may prove a most excellent remedy. This is acute alcoholism. I have had no experience in its use, but, from employment of its congener, pilocarpine, in this class of cases, there is no doubt that, from the similarity of its action, veratrum viride should be equally efficacious. I was among the first to show the value of pilocarpine in alcoholism in the MEDICAL NEWS of September 19, 1885. It has the advantage over veratrum viride in not producing retching and vomiting, if, indeed, this should not prove to be a disadvantage therapeutically. H. C. Wood, Jr.,[1] states that he has knowledge of a death produced by veratrum viride in delirium tremens and, therefore, he condemns it in this condition. As, however, in the consideration of its toxicology, he declares that the drug is perfectly safe in any single dose in which it may chance to be administered, it is fair to presume that in the instance he refers to the man may have died in spite of it. Occasionally a patient with delirium tremens inconsiderately dies. If deaths from delirium tremens are chargeable to the medicaments ingested there are not many articles in the materia medica that should be considered safe to use in the treatment of this trouble.

In regard to the preparation employed, use has always been made of Norwood's tincture, boiled and filtered. In reference to the method of administration, the hypodermatic is preferred in all cases when prompt action is desired. Sometimes there is considerable soreness and induration from the injections which may persist for a week or two, but abscesses have never been observed.

Plague at Cape Town.—This continues to be serious. New cases are reported daily. A general epidemic is not feared, however.

[1] *Op. cit.*, p. 160-1.

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THE TREATMENT OF DELIRIUM TREMENS BY THE INTRAVENOUS INFUSION OF SALINE SOLUTION.[1]

BY JAMES P. WARBASSE, M.D.,
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THE disease under consideration is characterized by auto-intoxication. A chronic degeneration of the glandular structures of the body results from the prolonged use of alcohol. Particularly when the whole organism suffers the shock of traumatic injury, the secreting and excreting structures, by virtue of these degenerative processes, become disturbed in their functional equilibrium and a toxemia results. The identity of the peculiar toxins of delirium tremens has not been determined. It must be assumed, however, that these toxins are in part waste materials which are dependent upon the emunctory organs for their elimination and in part the so-called internal secretions of organs, which in the normally-balanced organism play a physiological rôle. Delirium tremens is characterized by the action upon the nervous system of these products, which, by virtue of the pathological conditions present,, fail to become eliminated, absorbed or neutralized.

In the majority of these cases the natural resources of the system are sufficient to overcome the toxemia, and the glandular equilibrium becomes restored. In a certain class of cases the intoxication is fatal, even in the presence of kidneys which are able to excrete an adequate amount of urea.

The great value of intravenous salt infusion in cases in which the blood contains a profoundly poisonous amount of toxic substance has lead the author to apply this method of diluting and hastening the elimination of the poison in the extreme intoxication of delirium tremens. This opportunity is taken to place on record the following experience, occurring in the service of Dr. Pilcher in the Methodist Episcopal Hospital in Brooklyn. The patient was a man, thirty years of age, an habitual drinker of whisky. The urine showed the evidences of but a very moderate degree of urea-eliminating derangement. He suffered a fall from a wagon, sustaining a contusion of the side of the chest and abdomen and a slight wound of the scalp, with transient cerebral contusion symptoms. He regained full consciousness in about an hour. The first symptoms of tremor appeared a few hours after the injury. This continued in a slight degree until the third day, when the temperature rapidly rose to 104.2° F., and the patient became profoundly overwhelmed with the disturbances associated with a violent attack of delirium tremens. The pulse became rapid and weak, and on the fourth day the temperature was 105° F. Until this time sedatives and the routine treatment for delirium tremens had been employed, together with alcohol-sponging for the fever. On the fifth day his general condition was still worse. The heart was weak and rapid. The skin was cyanotic and bathed in cold perspiration. The delirium was of the low muttering type, and the general picture was that of a case profoundly overwhelmed with some virulent systemic poison, which promised to terminate fatally within thirty-six hours. At this stage an infusion of 1,200 c.c. (40 ounces) of saline solution at a temperature of 116° F. was introduced into the median cephalic vein. The change that came over the patient was a most striking one. The circulation rapidly improved, the delirium subsided, and the patient regained consciousness, all within a few hours. On the day following the temperature had subsided to 99.6° F., and the complete recovery was rapid and uneventful. The changes in this case were so rapid and striking that it seemed like a resuscitation.

The infusion in such cases as this accomplishes the following things: It increases the amount of the circulating medium in which the toxic materials are dissolved, thereby diluting the poison and bathing the nerve-centers with a more attenuated solution of the same. The amount of circulating fluid is increased above the normal, so that the excretion of fluids through all the fluid-excreting channels is increased, thereby carrying off in solution much of the contained toxins. The action of the heart is improved by the filling of the relaxed vessels. These suffice to restore the physiological equilibrium and turn the balance in the favor of recovery. Thus we may add indefinitely to the uses of this most valuable therapeutic measure.

[1] Read at the annual meeting of the Medical Society of the State of New York, held at Albany, January 29, 30, 31, 1901.

YOHIMBIN AND ITS SALTS; A NEW APHRODISIAC.

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THE remedies composing the group of aphrodisiacs have usually been disappointing. Some of them stimulate the function in a spasmodic way and have no power of sustained action; others irritate the genito-urinary tract and set up structural changes in the kidneys, and others induce profound nutritive disturbances, like acute yellow atrophy of the liver. Cantharides is a representative of the former group, and phosphorus of the latter. There is, therefore, a distinct need of a remedy, which shall be active in effecting results, but free from after complications.

In the issue of the *Therapeutische Monatshefte* for November, 1900, there is an account of yohimbe, a new aphrodisiac, which seemed competent to supply the existing deficiency. The chemistry, physiological action and therapeutical properties of the new remedy have recently been investigated at Berlin. One capable and enterprising pharmacist, Mr. Frank E. Morgan, has procured a supply of the new remedy, and I have repeated much of the experimental work with the view to ascertain whether the remedy has preserved its powers after transportation across the Atlantic. Before giving an account of my own researches, I submit an abstract of the work of our German colleagues.

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Historical.—Specimens of the plant were sent to Berlin from a German colony established in equatorial Africa. It was ascertained to be a member of the *Apocynaceae*, and the native name is yohimbe, or yumbehoa. The bark is the chief source of the active principle. The chemical investigation was made by L. Spiegel who separated an alkaloid which he named yohimbin. It is a crystallizable principle and has the formula $C_{22}H_{49}N_2O_4$. It combines with acids to form salts, as the sulphate, nitrate, phosphate, etc.[1] The most useful salt for internal administration is the chlorhydrate. The physiological investigation was made by Oberworth[2] with the following result:

The toxic dose of yohimbin for rabbits is 0.011 gram given intravenously and 0.053 gram subcutaneously, per kilogram of body-weight.

In frogs yohimbin causes a complete paralysis of the nervous system, with periods of slight remission of effect, proportional to the size of the dose and the duration of the action. The same effects occur in warm-blooded animals.

In cold-blooded animals (frogs) yohimbin inhibits the heart's action, finally stopping it in diastole. The previous administration of atropine does not prevent this result. It, also, paralyzes respiration, and if artificial respiration is resorted to death ensues by failure of the heart. The blood-pressure is lowered as soon as the injection is practised, and the pulse sinks proportionately. The blood-pressure falls, not alone through collapse of the arterial wall, but from weakness of the heart itself, and when a temporary rise of the pressure is caused by compression of the abdominal aorta it has no influence on the result. The heart's pulsations are not increased by section of the vagi, or by the injection of atropine, nor does irritation of the vagus center affect the pulse-rate, and peripheral stimulation of the vagus is equally without influence. The effect of yohimbin on the heart must be due, therefore, to an action on the sympathetic or on the motor ganglia of the heart, or on both.

Yohimbin acts on the genital apparatus in a marked manner, in warm-blooded animals. In various animals erections and emissions occur in a notable degree. The smaller doses cause unrest, excitement, erections of the genital apparatus. Large doses cause violent spasms, followed by prolonged weakness. No ill effects have followed in the sexual organs, and the kidneys remain unhurt by the considerable hyperemia which occurs throughout the genito-urinary system.

Therapeutic.—Clinical studies of yohimbin and its salts were made by Löwy, Mendel and others. Löwy observed marked aphrodisiac effects, swelling of the testes, and erections of the penis, but even if these effects were long continued they were not followed by any permanent injury to the sexual apparatus, unlike in this respect to the action of cantharides. It was noted especially that yohimbin does not cause any structural alterations of the kidneys. The observations of Löwy have been supplemented and confirmed by Mendel. In cases of sexual neurasthenia he found yohimbin most useful. However, in tabes and in other organic spinal affections it appeared to have no curative action.

My course of investigation included some simple observations on the effects of yohimbin (the chlorhydrate) on cold and warm-blooded animals. It is not actively toxic. The lethal dose for a medium-sized frog is $^1/_{10}$ grain, for an ordinary gray rabbit, ¼ grain. In observations on adults I found that the dose should be from $^1/_{20}$ grain to $^1/_5$ grain. Mendel advises a one-per-cent. solution of the hydrochlorate, of which he administers five to ten drops, making the dose $^1/_{20}$ to $^1/_{10}$ grain. It is not soluble in such proportion without the aid of heat.

When a frog is injected subcutaneously with $^1/_{10}$ grain, in a few minutes some irregularity of muscular movements is observed, paresis comes on, and nearly rhythmical muscular contractions take place at intervals. When the limbs are extended, they remain so for a few seconds, and are then drawn up in the usual position. When the toes are smartly pinched they are freed by a succession of rapid movements. Complete paralysis at length ensues, the animal lies extended, but occasional muscular spasms occur from above downward. Up to complete loss of muscular power, movements ensue on pinching the toes. Electrical, mechanical, and chemical irritation cause muscular movement and irritation of the sciatic nerve, separated, also induce contractions of the leg muscles, showing that the paralyzing action is central, not peripheral.

The action of the heart ceases in diastole and both cavities are distended. Electrical stimulation causes no response. Section of the pneumogastrics and section of the cord high up are alike without influence on the mode of termination of the heart's movements, so that we may conclude with our German confrères that yohimbin acts on the cardiac motor ganglia.

There is close resemblance in the action on cold- and warm-blooded animals (rabbits). Paresis with trembling, followed by paralysis of motility, ensues on injection of yohimbin (¼ grain). There is fibrillary trembling of the muscular system followed by spasmodic contractions, and nodding movements of the head. Sensibility is not impaired, but rather heightened, and muscular contractions on mechanical, chemical and electrical stimulation always take place until the centers are overpowered. It is a central and not a peripheral paralyzer.

The respiratory movements are affected by a succession of spasmodic shocks of the muscles of respiration until they finally cease. This effect is exerted on the centers in the medulla and is not changed by division of the pneumogastric. The action of the heart becomes more or less irregular, with the progress of the systemic impression, and ceases finally in the diastole.

[1] Chemiker-Zeitung, as quoted in Therap. Monatshefte, November, 1900.

[2] Virchow's Archiv, Band 153.

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Changes in the tension of the vascular system, division of the pneumogastric, do not change the action on the heart's movements.

Male rabbits are notoriously possessed of an active state of the sexual function. Under the influence of yohimbin this natural state is much intensified. A condition of hyperemia of the genito-urinary tract is set up, including the kidneys and bladder, especially about the prepuce.

To illustrate the mode of action of yohimbin in general on warm-blooded animals, I give the details of the effects of a less than lethal dose of the alkaloid: A medium-sized gray rabbit received by hypodermatic injection one-fourth of a grain. In an hour there occurred some weakness and irregularities of gait, some spasms of the muscles of the legs, and of the neck, followed by general muscular weakness, and inability to stand. He fell on his side and was unable to rise, but when his toes were pinched, he made efforts to move them away. His respiration was irregular and interrupted by what seemed to be spasms of the diaphragm. The action of the heart was irregular; the pulsations in general were frequent and weak, but occasionally a stronger one would occur. Then came on the nodding movements of the head which were nearly rhythmical, but often interrupted by more active convulsion extending from above downward. The kidneys acted copiously and the bowels moved freely. At the end of two hours the rabbit lay on his side, motility lost, and only faint breathing movements could be detected. In another hour he began to make feeble movements and attempts to rise when his toes were pinched, the respiratory and cardiac movements increased in regularity and volume, and at the expiration of another hour he began to nibble at a carrot placed near him, and finally got on his legs, which at first were feeble. The next morning he was quite lively, seemed nowise injured by his experience, ate freely of carrots, and drank water.

The experiments made on animals indicate that yohimbin is a central paralyzer of motility, but not of sensibility. With the muscular paresis occur spasms of the muscles and nodding movements of the head involving the neck muscles. It affects respiration by acting on the chest muscles and the diaphragm. The heart's action is weakened by it, and ultimately the organ is paralyzed, stopping in the diastole. This result is due not to peripheral impressions, but to an action of the cardiac motor ganglia. It is not a muscular poison; the muscles themselves and the motor nerves react to mechanical and electrical excitation.

The most interesting point regarding yohimbin is its effect on the sexual system. That it causes hyperemia of the genitals and increased activity of the apparatus seems undoubted. That it increases the sexual function is apparent, but it does not appear to set up any inflammatory action in the kidneys.

Clinical.—Sufficient clinical experience has not yet accumulated to permit an authoritative judgment of its therapeutical value. Mendel of Berlin found it useful in sexual neurasthenia, but thus far my own results are rather negative in this respect. It may be the dose used has not been sufficient to develop this action in man. The dose favored by the Berlin observers, as already stated, ranges from $^1/_{20}$ to $^1/_{10}$ grain. In prescribing it for adults I have not gone beyond $^1/_{20}$ grain. This has not proved sufficient to excite the sexual organs in healthy adults.

That it should prove useful in sexual neurasthenia, in depression of the sexual organs by age and premature debility, seems warranted by the mode of action disclosed in the experiments on animals.

My own interest in the remedy has been rather the expectation that we should find yohimbin useful in albuminuria. The fact that it has a marked effect on the renal and genito-urinary systems indicates that it may exert an action of substitution in diseases of these organs. But to what extent it may have a curative effect in renal diseases can only be determined by a more extended clinical experience.

THYMOTAL; A NEW REMEDY FOR ANKYLOSTOMIASIS.

By J. E. POOL, Ph.G.,
OF PARAMARIBO, DUTCH GUIANA.

WHEN my little daughter was suffering from ankylostomiasis, I saw the terrible effect of thymol and how difficult it was to take; I saw the little boy of my cook drop dead shortly after he had taken thymol pills; I saw a baby suffocated by thymol electuarium and learned that two patients at the Military Hospital had become blind by the use of large doses of extractum filicis, usually prescribed for ankylostomiasis. I then determined not to rest until I had found a less dangerous and better remedy for this dangerous and very frequently-occurring malady of the tropics.

After much difficulty I succeeded in making a carbonate of thymol as has been done of guaiacol, and I called it "thymotal Pool." Its preparation takes place by the influence of phosgen gas on thymolnatrium, leaving after purification an insipid, white crystalline substance, the smell of which only feebly reminds one of thymol.

It is a neutral substance, with a fusing-point of 49° C. and a boiling-point of more than 400° C., and it gives no other reaction save of its having been divided into thymol and carbonic acid by an alcoholic solution of potassa. The influence of an alcoholic potash solution resembles that of an alkali in *status nascendi* like the saponifying action of the intestines. A boiling aqueous solution of potash does not break it up and neither acids nor the human stomach have any effect on it.

Seven patients were treated for ankylostomiasis with the new remedy in the Military

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Hospital with excellent results, as is evidenced by the following report of the medical officers of the hospital:

Drs. E. A. Koch, J. W. van Rijn and C. van der Meer, medical officers at the Military Hospital of Paramaribo, declare herewith that seven patients, children as well as adults, have been treated with favorable results in this Hospital with the new remedy, thymotal, and that this new remedy is far to be preferred to thymol, for the following reasons:

(1) Because it is without odor and can therefore be taken by children who cannot swallow pills. At the same time the danger of being suffocated by thymol electuarium, which occasionally happens in infants, is avoided; (2) because it is not dissolved in the stomach, as is thymol, and is not vomited, as is often the case with this drug; (3) because thymotal does not cause giddiness, as thymol does very shortly after it is taken; (4) because the danger of thymol-poisoning is reduced, especially in those children whose bodies are weakened by *Ankylostoma*; (5) because the carbonate of thymol is broken up in the body by the influence of the bile and the mucus of the intestines and thymol is formed exactly at the places where the *Ankylostoma* are found in the body, *i. e.*, the duodenum and the adjacent parts of the intestines ;(6) because it cures more rapidly than does thymol (as far as can be judged from the treatment of so small a number of patients).

As is universally known, the malady ankylostomiasis is known in all tropical countries, for instance, in West India (in the Antilles the malady is called "malcœur"); in Colombia, where it is called "tuntun"; in the Brazils, where it is called "opilaças"; in Egypt, where it causes the so-called "Egyptian chlorose"; in Italy; in Switzerland, where it causes the "Minen" or "Grubenkrankheit." In the Dutch East Indies the malady seems to be known in some regions, but it appears that no efficient remedy is known there. In other regions it seems to be unknown and it has even happened that medical officers from the East Indies, who had been sent to Surinam, did not know the malady. On the other hand, several Javanese, among the immigrants freshly disembarked, suffered very much from the disease. At Delhi, where the workmen find very praiseworthy medical attendance, the disease is a true curse, as it also is at Surinam.

In this Colony, with a population of about 40,000, nearly 60 kilos (120 pounds) of thymol are consumed yearly, which proves that the population receives very good gratuitous medical attendance, but I feel sure that in other countries the disease will be equally prevalent.

In Europe experiments with the new remedy were made by Mr. Stheeman on round worm and tapeworm. These experiments are still going on, but it has been stated that the remedy is very efficacious, consequently it will soon compete with male fern, pomegranate, santonine and cooso.

The directions for this remedy are as follows: For adults, grams 2.0 (30 grains); for children, gram 1.0 (15 grains), and for babes, gram 0.5 (7.5 grains) three or four times daily. This treatment must be continued for four days and a purgative must be taken on the fifth day, after which the whole treatment must be repeated until no more eggs of *Ankylostoma* are found in the stools.

BELLADONNA VS. SCOPOLIA.[1]

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So much has been presented in regard to this question and so many discordant statements are to be found in literature that it has been deemed important that the facts in regard to the relative value of belladonna and scopolia should be investigated and an unbiased opinion reached.

The status of the belladonna-scopolia question is as follows: The present belladonna plaster of the Pharmacopœia is but little used, owing to objections both to the leaf extract, from which it is made, and to the mass used as a basis. Plaster manufacturers, therefore, resort to the root extract instead. This root extract is prepared, for the most part, both in this country and abroad, from the scopolia rhizome (*Scopolia carniolica*), more or less of the scopolia root also intermixed, instead of from belladonna. It is claimed upon one hand that this rhizome and root yield a separate article from a therapeutic standpoint, and that is is used because of cheapness. Incidentally, it has been claimed that the scopolia plaster is nearly inert, and again, that it is extremely dangerous—the latter claim being based upon its content of hyoscine. Upon the other side, it is claimed that it does not differ in kind of action from the belladonna-root plaster, the percentage of hyoscine being extremely small and the hyoscyamine present acting the same as atropine. It is also claimed that if the present extensive use of scopolia were to be turned over in favor of belladonna root, the supply of the latter would become insufficient to meet the demand.

This controversy has been carried on up to the present time very largely in commercial circles, yet the suggestion has been urged upon the Pharmacopœia Revision Committee that it authorize the use of scopolia extract in plaster-making, either independently, or as an alternative for belladonna, at the option of the manufacturer. Under these circumstances the Research Committee of the American Pharmaceutical Association, one of the chief duties of which is to work in the interest of the Pharmacopœia, concluded that it was desirable for it to undertake this investigation, and Dr. H. H. Rusby, Professor of Botany and Materia Medica at the New York College of Pharmacy, assumed

[1] Read before the Medical Society of the State of New York at its ninety-fifth annual meeting, held at Albany, January 29, 1901.

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the duty of bringing it about. The steps which were taken were as follows:

Three lots, each of twenty-five pounds, of belladonna root were secured in the New York market, each lot representing a different importation. This root was all examined by Dr. Rusby, piece by piece, to be sure that it contained no foreign matter of any kind. It was then mixed and prepared for powdering. Similar action was taken in the case of three lots, each of twenty-five pounds, of scopolia. All the root pieces of the latter, because of their close resemblance to belladonna root, and because some of them might possibly have represented an admixture, were thrown out. These represented about 5 per cent. or more of the entire amount. These two articles, that is, the belladonna root and the scopolia rhizome, were sent to a large manufacturer of the highest reputation for the excellence of his manufactured drugs, but not interested in this discussion, with careful explanation of the nature and importance of the work, and a request was made that they be made up into fluid extract, tincture and total alkaloids, with the greatest care possible. This was done under the direction of an expert, who resorted to processes which were certain not to effect any change in the original nature of the alkaloids contained, evaporation by the cold process being strictly adhered to. One-half of the total amount of each drug was converted into fluid extract, tincture and extract, while the other half was used for the complete extraction of the total alkaloid. Of this total alkaloid one-half was retained for the purpose of being examined chemically, microscopically and optically. Of the remaining half a portion was used in making a large number of one-five-hundredths-grain tablets, and the remainder employed for experimental purposes. All this alkaloid, it must be stated, was first converted into the form of the hydrochloride. The alkaloids have been experimented with by others and will be the basis of separate reports.

Coming now to the galenical preparations, it was found that the scopolia rhizome assayed 0.55 of 1 per cent. total alkaloids—a rather low yield as compared with other assays. Its fluid-extract assayed the same, and it was from this that one of the liniments was prepared. The belladonna root yielded the extremely high percentage of 0.93, and its fluid-extract, of which the other liniment was made, yielded the same. The extract showed also a great difference, the belladonna containing 2 per cent. of total alkaloids and scopolia 1.6 per cent.

Not having any interest in plasters, I chose the liniments (95 parts of fluid-extract with 5 parts of camphor) for my experimental work. I received from Dr. Rusby two bottles marked only "A" and "B," but without any clue as to their contents other than that each contained a liniment derived from one or the other of these sources. The method pursued was as follows: A quantity of the liniment (noted in each experiment) was taken and, after the temperature, pulse, respiration and general condition of the adult had been recorded, this was rubbed into the inner surface of the forearm until the skin became again dry. Records were made at intervals of thirty minutes unless otherwise specified, the first being made immediately before using.

LINIMENT "A."

No.	Amount.	T.	P.	R.	Pupils.	Mucosæ.	Skin.	Tongue.
1.	20 drops	99.4	88	22	Medium	Pale	Cool	Moist
		99.6	89	26	Medium	Pale	Cool	Moist
		99.5	88	28	Medium	Pale	Warm	Moist
2.	20 drops	99.4	88	18	Contracted	Pale	Warm, dry	Moist
		99.8	90	28	Dilated	Pale	Warm, dry	Moist
		99.9	100	28	Dilated	Pale	Warm, dry	Moist
3.	20 drops	99.2	88	20	Medium	Red	Warm, dry	Moist
		98.4	80	20	Medium	Red	Warm, dry	Moist
		98	84	18	Medium	Red	Warm, dry	Moist
4.	20 drops	98	80	18	Contracted	Pale	Warm	Moist
		98	80	20	Contracted	Pale	Warm	Moist
		98	80	20	Contracted	Pale	Warm	Moist
5.	20 drops	98.4	78	24	Medium	Red	Warm, dry	Moist
		98.4	78	24	Medium	Red	Warm, dry	Moist
		98.4	78	24	Medium	Red	Warm, dry	Moist
6.	20 drops	100.2	96	24	Contracted	Red	Moist	Moist
		99.2	88	26	Contracted	Red	Moist	Moist
		100.2	100	24	Contracted	Red	Moist	Moist
7.	40 drops	98.4	110	22	Contracted	Pale	Warm, dry	Moist
		97.8	100	18	Contracted	Pale	Warm, dry	Moist
		99	120	20	Contracted	Pink	Flushed	Dry
8.	40 drops	98.6	74	20				
		98.6	84	28	Pupils slightly dilated, headache, thirsty and nauseated.			
9.	50 drops	98.2	74	20				
		98.6	80	30	Headache, nauseated, very sleepy.			
10.	60 drops	98.2	50	20				
		98.4	60	28	Flushed face, nauseated, slight headache, thirsty and pupils slightly dilated. Sleeping.			
11.	60 drops	98.2	70	18				
		98.4	80	30	Nauseated, severe pain over heart, face flushed, pupils considerably dilated, extremely thirsty and very drowsy.			
12.	60 drops	98 6	120	20	Medium	Red	Cool	Moist
		98.6	120	22	Medium	Red	Cool	Moist
		100.2	130	24	Slightly dilated	Red	Flushed	Dry
		101.2	133	26	Dilated	Red dry	Flushed	Dry
					(The last record was made two hours after using the liniment.)			
13.	70 drops	98.2	100	24				
		98.6	80	30	Peculiar feeling in chest; moderate dyspnea, nauseated; flushed face; headache; intense coughing lasting five minutes; dilated pupils; extremely drowsy.			
14.	70 drops	98.2	70	18				
		98.4	80	30	Very drowsy and slightly nauseated. Relief of pain in back at point of application. Very drowsy, dilated pupils. (This application was made over the site of a lumbago).			
15.	70 drops	98.4	70	24				
		98.6	84	30	Pain in head; numbness of arms; slightly nauseated; flushed face; thirsty and very sleepy.			
16.	80 drops	98.2	74	28	(Liniment apphed to axilla.)			
		98.4	80	30	Face slightly flushed; difficult respiration; drowsy; thirsty; one pupil slightly dilated.			
17.	80 drops	98.2	98	20				
		98.4	100	30	Headache; nausea; pupils slightly dilated; thirsty. (This is the same patient as No. 16, but four days later.)			
18.	80 drops	98.2	98	18				
		98.2	106	26	Slight headache.			
19.	90 drops	98.6	56	29				
		99.2	68	30	Headache; nauseated. (The same patient as No. 18, but six days later; under the influence of digitalis.)			
20.	90 drops	97.2	90	24				
		98.2	96	30	Nauseated; headache; pupils slightly dilated.			

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From these observations, considering the rise of temperature, pulse and respiratory rate, difficult respiration, the flushing of the face, reddened mucosæ, dry tongue and thirst, headache, drowsiness and dilatation of pupils—these symptoms becoming more marked as the amount of the liniment was increased—there was no doubt but that liniment "A" is very active and contains an atropinaceous alkaloid. In No. 12 poisonous symptoms were well marked.

LINIMENT "B."

No.	Amount.	T.	P.	R.	Pupils.	Mucosæ.	Skin.	Tongue.
1.	30 drops	100.2	110	24	Medium	Pale	Hot, dry	Dry
	= 17 drops of "A"	100	110	24	Slightly dilated	Pale	Hot, dry	Dry
		100	120	24	Slightly dilated	Pale	Hot, dry	Dry
2.	30 drops	98.6	84	18	Contracted	Moist	Red, warm	Moist
		98.6	96	17	Contracted	Moist	Red, warm	Dry,
		98.6	100	16	Contracted	Moist	Red, warm	Dry,
3.	30 drops	99.4	80	20	Medium	Pink	Cool	Moist
		99	90	22	Medium	Pink	Warm	Moist
		99	90	24	Medium	Pink	Warm	Moist
4.	30 drops	98.9	84	22	Medium	Pink	Cool	Moist
		98.4	80	20	Medium	Pink	Cool	Moist
		98.4	80	20	Medium	Pink	Cool	Moist
5.	30 drops	98.2	80	18	Contracted	Pink	Warm, dry	Moist
		98	82	20	Contracted	Pink	Warm, dry	Moist
		98.4	81	20	Contracted	Pink	Warm, dry	Moist
6.	30 drops	99	90	20	Contracted	Pink	Cool, dry	Moist
		99.2	88	21	Contracted	Pink	Cool, dry	Moist
		98.9	86	20	Contracted	Pink	Cool, dry	Moist
7.	30 drops	98	78	20	Contracted	Pink	Cool	Moist
		98	80	22	Contracted	Pink	Cool	Moist
		99	90	24	Contracted	Pink	Cool	Moist
		(The last observation was made two hours after the first.)						
8.	40 drops	98	68	24				
	= 23 drops of "A"	98	60	28	Pupils same.			
9.	40 drops	98.6	80	20				
		98.4	80	20	Pupils same.			
10.	60 drops	97.8	84	32				
	= 34 drops of "A"	97.8	72	28	Pupils same.			
11.	60 drops	97.8	64	32				
		98.2	60	24	Pupils same.			
12.	60 drops	98.6	80	20				
		98.8	80	20	Pupils same.			
13.	80 drops	97.6	72	28				
	= 45 drops of "A"	98.2	72	24	Pupils same.			
14.	80 drops	98.8	80	20				
		99	80	20	Pupils same.			
15.	120 drops	98.2	80	18				
	= 68 drops of "A"	98	68	18	Pupils same.			
16.	120 drops	98.6	84	17				
		98.6	82	19	Pupils same.			
17.	120 drops	98.5	82	16				
		98.6	86	16	Pupils same.			
18.	120 drops	98.8	72	16				
		99	76	16	Pupils same.			
19.	180 drops = 106 drops of "A"	98.6	76	16				
		99	80	18	Pupils same.			
20.	180 drops	98.4	74	16				
		98.6	78	20	Pupils same.			

In all of these experiments there was no change in the color or dryness of the mucosæ or in the tongue; there was no flushing of the skin nor any nervous symptoms. The only conclusion which can be reached is that, excepting for the very moderate and inconstant changes in temperature, pulse and respiration, liniment "B" is inert.

After completing my observations I reported to Dr. Rusby that I had reached the opinion that the effects of liniment "A" were those of an exceedingly active preparation of belladonna. He then informed me that my opinion was correct and called my attention to the following:

"You have, therefore, to consider that your 'A' liniment made from the belladonna fluid-extract compared as .93 to .55 with your 'B' liniment made from scopolia fluid-extract. In estimating your comparative results, therefore, you must make allowance for this difference in strength."

Even after making due allowance for the difference in alkaloidal strength, the opinion still obtains that, as far as its use as liniment is concerned, scopolia is unproductive of results. For comparison in tabulating my results I have placed the equivalent alkaloidal strength of "B" in terms of "A."

Whether the alkaloids of scopolia (mostly hyoscyamine, with small quantities of hyoscine) are, on account of their nature, not absorbed when exhibited as a liniment, but would be if applied in a plaster form, this investigation does not, of course, determine, but others now working upon that question will soon be in a position to report. My work has established but one fact: Scopolia rhizome as fluid-extract incorporated into a liniment is devoid of therapeutic action and should not be substituted for belladonna root.

Experiments made with plasters and ointments from belladonna root and scopolia rhizome are not yet completed, but thus far very little difference in their activity has been developed. In order to determine if the camphor in the liniment interferes with the production of symptoms from the use of scopolia liniment, a new series of observations has been commenced which will be the basis of a later report.

To Drs. H. D. Furniss of the Post-Graduate and H. J. Van Wagenen of the St. Mark's Hospital house staff I would acknowledge my indebtedness for efficient assistance in prosecuting this investigation.

749 Madison Avenue.

IMMUNIZATION FOR TYPHOID FEVER: A REVIEW.

BY H. W. McLAUTHLIN, M.D.,
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THE efforts made during the past few years to produce artificial immunity from typhoid fever must be considered as especially far reaching in importance. In 1892 the experiments of Brieger, Kitasato and Wasserman on animals were reported. They grew typhoid bacilli in thymus bouillon for three days. They claimed that an antitoxic body in the thymus cells reduced the virulence of the typhoid poison so that after heating the thymus culture to 60° C. for fifteen minutes it became sufficiently attenuated to be safe to use in man and at the

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same time sufficiently protective. They injected six mice with 0.5 c.c. of this specially-prepared thymus bouillon. The animals thus treated did not show any signs of illness. After twelve days the six protected and three control mice were inoculated in the peritoneal cavity with 0.3 c.c. of the most virulent typhoid bouillon. The three control animals died in fourteen hours. The protected animals all survived without signs of sickness.

Passing the work of the other investigators in this line, special interest centers in the work of Dr. A. E. Wright and others, of the English army, teachers in the army medical school at Netley, particularly because of the favorable opportunity of these men to test the value of the inoculations on British soldiers in India and South Africa.

In the *British Medical Journal* of January 30, 1897, and also in the *Lancet*, the first extended paper of Dr. Wright on this subject appeared. In it he said that the vaccination experiments against cholera by Haffkine prompted him and his associates to take up the question of establishing artificial immunity from typhoid. His first published vaccinations were made in July and August, 1896. Regarding the principles of the proposed method, he said that all vaccination has for its object, first, to achieve a degree of immunity equal to or greater than that which comes from an actual attack of the disease, and second, to obtain this immunity without risk to life or health. The first can be obtained as yet only by inoculation with the micro-organisms of the particular disease or their products. The second can be accomplished in a number of ways; as, for example, in vaccination against smallpox, by inoculating with micro-organisms which have lost their virulence for man by passing through certain animals; or, as in Pasteur's vaccination against anthrax, in which use is made of artificially-attenuated micro-organisms; or, thirdly, by using measured quantities of dead, but still poisonous micro-organisms. The latter method was adopted by Professor Wright.

His vaccine consisted of a pure cultivation of typhoid bacilli in broth or agar-agar. When time was allowed for the material to be obtained from Netley, it consisted of lysolized cultures (1 per cent. lysol), four weeks old, of virulent typhoid bacilli. This pure cultivation, with its contained toxins, is sterilized by subjecting it to a temperature of 60° C., thus destroying the typhoid bacilli, or possibly in some cases so lowering their vitality that they cannot produce fresh poison, or can produce it only in such quantities and of such a character that it cannot prove fatal when introduced into the tissues of man.

The vaccine is thus not a serum nor a lymph. Living animals are not at any stage required to produce it and the only use made of animals is to test the strength of the fluid to insure the proper standard.

In general characteristics the vaccine corresponds closely to that used by Haffkine in his cholera inoculations. The strength of the vaccine varies with the number and the virulence of the bacilli it contains; so the dose has varied, but seems to have been between 0.3 and 1 c.c. The latter makes a full dose for a man, and represents an amount which would prove fatal to a 350-gram guinea-pig.

Dr. Wright gives the following symptoms as occurring after a person has been inoculated: From a small dose there is locally slight tenderness at the site of the injection (generally the flank). There is a feeling of chilliness two or three hours after the inoculation, with a slight rise of temperature and some restlessness at night. In twenty-four hours the symptoms are gone. From larger doses the local tenderness increases and extends upward to the armpit and downward to the groin. A reddened patch, two to four inches in diameter, appears at the place of injection and red lines of inflammation extend from this up to the armpit. The local symptoms are at their height in twelve hours, still very sensible at twenty-four hours, and are gone in about forty-eight hours. Constitutionally there are usually feelings of faintness or collapse within two or three hours after the injection. Sometimes there is vomiting. The appetite is lost. There is considerable fever and sleep is much disturbed. Within a day or two the symptoms are gone and the patient feels normal. Occasionally a patient looks poorly for two or three weeks. Considerable edema may occur at the site of injection, and in one case it extended to the linea alba in front and downward to the groin. Wright thinks he largely prevents this by administering calcium chloride.

The *British Medical Journal*, January 20, 1900, says editorially: "The patient (after inoculation) passes through what may be called a modified attack of typhoid fever, an attack modified both in degree and in kind. If the bacilli are killed, the reaction, however smart it may be, is usually temporary; if the bacilli are not dead the process is more prolonged and it is probable that the protection is also greater and more prolonged. It is possible that as the process becomes better understood and the necessity for a greater degree of protection becomes evident, the living but modified virus may be more generally used."

Through the courtesy of Dr. Smith, of Littleton, I can add the testimony of a physician who himself took the inoculation, Dr. Charles Peters of the Imperial Yeomanry. In a recent letter he says: "You know there is an antityphoid inoculation on trial now, and this war (South African) will prove it to be good or not, as many of the troops have been inoculated. I had it done. I thought it would be worth trying. They injected 1 c.c. into the muscles just above the anterior superior spine of the ileum. In four hours it commenced to work. At first it makes one feel very faint, then causes perspiration and

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high temperature (102°-104° F.) with a frightful headache. Some it makes vomit, so, of course, I had my share of that. This lasts twenty-four to thirty-six hours and, in the meanwhile, the whole of the side becomes very sore. It sets up an acute cellulitis at the site of the injection and a lymphangitis extending to the axilla and groin, where an adenitis is developed. In my case it did not spread to the groin. Then one gets well very quickly and the side is quite normal in three or four days. I can assure you it is not pleasant at the time, but, if it lessens typhoid or prevents it, it is worth the day or two of illness, at least so I think now; but if I had to take it again I might think otherwise."

The blood of patients who have submitted to the typhoid vaccination becomes poisonous in some measure to the typhoid bacillus, as it immobilizes and agglutinates them, *i. e.*, it responds to Widal's test. Wright considers that this agglutination power of the blood is a trustworthy criterion of the immunity of the person who furnishes it. He admits, however, that before this can be called proven, the fact must be explained that persons who die from typhoid show the specific agglutination reaction in exactly the same way as patients who recover from this disease. He believes that it may be assumed that every animal is working its way up to the acquirement of immunity from the moment of infection up to the time its struggle with the disease finally ceases. A degree of immunity which would amply ward off a fatal issue if given on the first day of the disease may be of no avail if acquired later in the attack. So in typhoid the aggultinating power of the blood may be acquired too late in the attack to save the patient's life. The agglutinating power of the blood acquired from an attack of typhoid is not greater than that acquired from an inoculation with dead typhoid bacilli.

The blood of an inoculated person is also tested to see how far it can be diluted and preserve its agglutination powers. The sedimentation units are then called preventive units. For example, a blood which shows the agglutination in a tenfold dilution is said to contain one preventive unit, and so on.

As to risk from inoculations, it is claimed that as the bacteria employed are dead, and so are thus incapable of generating new poison in the system, the injection of small and measured amounts of these dead bacterial cultivations would risk life no more than the injection of a medicinal dose of morphine. Haffkine has made nearly 100,000 anticholera inoculations without a serious symptom.

As to probable duration of immunity, with typhoid as with smallpox vaccination the immunity conferred probably diminishes more or less rapidly. Wright thinks that if, as seems probable, the duration of immunity will be told by a series of blood examinations, it would seem that immunity would last at least a few years and thus carry a young adult over the period of greatest susceptibility. Dr. Foulerton, in the *Middlesex Hospital Journal*, claims to have examined the blood of nine people two years after inoculation and in four out of nine cases it showed a definite agglutinative reaction. The *British Medical Journal*, January, 1900, says editorially: "Evidence has been established that the effect of inoculation is prolonged for eighteen to twenty-four months."

Sir Dyce Duckworth, lecturer of medicine at St. Bartholomew's Hospital, in an interesting report of two cases which he inoculated successfully with Wright's vaccine, says that a second inoculation, ten or twelve days after the first, is desirable to secure the full benefit of the vaccine.

In reviewing the literature on this subject, one finds the reports few in number and often incomplete, because no subsequent blood tests are given. For instance, we find that in 1896 eighteen medical officers, either in or preparing for service in India, were inoculated. Two hundred and fifty men volunteered at Bangalon in December, 1898. In March, 1899, there were 420 men inoculated at Lucknow, and so on. The following reports are from Wright. Of 200 attendants at the Maidstone Hospital, 95 were inoculated. During the subsequent epidemic of typhoid there none of these men were ill. Of the 105 who refused to be vaccinated, 19 contracted typhoid. At Khartoum six subalterns consented to be vaccinated. The remaining two refused and said they would take chances. One of the latter died and the other was very ill from typhoid. None of those inoculated took the disease.

A detailed account of the results of typhoid inoculations in the Indian British army, by Wright, appeared in the *Lancet* and also in the *British Medical Journal* in January, 1900. The statistics are as follows:

TYPHOID AMONG INOCULATED AND UNINOCULATED.

Period of observation	About 9 months
Total number of men under observation	11,295
Number inoculated	2,835
Number not inoculated	8,460
Number of cases of typhoid among inoculated	27 or 0.95 per cent.
Number of cases of typhoid among uninoculated	213 or 2.5 per cent.
Number of deaths from typhoid among inoculated	5 or 0.2 per cent.
Number of deaths from typhoid among uninoculated	23 or 0.34 per cent.

Of the inoculated cases who had typhoid, five were admitted to the hospital within 19 days after inoculation. Two of these died.

In connection with these figures, Wright calls attention to the conditions under which the inoculations were performed. They were made in the latter part of 1898 and early in 1899, while he was serving on the Indian Plague Commission. As the Commissioners journeyed from place to place, the soldiers were told of the supposed advantages of the inoculations, and volunteers were called for. The younger men and those newly arrived were especially advised to protect themselves, and these were the ones who usually took the inoculations. Those who considered themselves safe on account of age or a

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previous attack were disposed to take chances. As sufficient vaccine could not be prepared before they left England, it had to be prepared *en route*. The bottles of vaccine had to be repeatedly opened in order to withdraw material when needed. Guinea-pigs, for standardizing the vaccine, had to be carried about from place to place, to keep them under observation. As an incubator could not be carried about with them, to prove the continued sterility of the vaccine, the latter was sterilized at 60° C. previous to making each new series of inoculations. Wright considers it possible that some of the vaccine was thus weakened by repeated sterilization. In no case was it possible to make two successive inoculations. The doses were always such as to produce fairly severe reaction in the men. The necessary statistics after the inoculation were difficult to obtain, owing to frequent changes in the stations of the men. In certain cases the inoculations were taken in the actual presence of a typhoid epidemic, and some of the men were undoubtedly incubating the disease at the time they were inoculated.

These statistics, moreover, do not include officers, as no accurate statistics were available in their case. Wright thinks, however, that several hundred inoculations have occurred among the subalterns alone. Among these only five cases of typhoid, all said to have been mild, have come to his knowledge. In closing this article on results he says: "Even assuming that no greater protection could be conferred in the future than that which appears to have been conferred in these preliminary inoculations, the result obtained would, in the aggregate, be a significant one. Taking the figures as they stand in the summary of the table, and calculating on the figures 1800 and 460, which represent in round numbers the average number of cases and deaths from enteric fever, in the British army in India, as deduced from the figures of the last three years, there would, on the assumption that the whole army, or the susceptible portion of it, were inoculated, be an annual saving of over 1000 cases of enteric fever and of nearly 200 lives."

Curiously enough, there have been numerous reports from India to the effect that the antityphoid inoculation also confers a certain amount of protection against malarial fever. Regarding this, Wright says that the only record he has bearing on it is that of one regiment. The question was asked each man if he had had malaria before or after the inoculation. Of 121 men who stated that they had had malaria before the inoculation, 111 were entirely free from it six months after, when the question was asked. The other 10 said that they had been practically free from it. Two men who had never had malaria previous to the inoculation said they had it slightly within the six months after. But this question is of secondary importance.

It is not surprising that the consensus of opinion seems to be that Wright's work has demonstrated the harmlessness of these inoculations, and also, which is Wright's modest claim, that some degree of protection against typhoid is conferred by them. It is quite possible that changes in the technic of the preparation of the protective material will be necessary. Wright himself admits that there have been uncertainties in the method of standardization which he proposes to deal with later. Fuller statistics are absolutely necessary and especially the following up of the inoculated cases.

Further to quote the *Lancet:* "Wright's results are not enthusiastic. A much larger number must be quoted. But these are sufficiently convincing to make officers willing to take the inoculations and to advise their men to do likewise. We agree with Wright that a certain measure of protection seems to have been conferred. Typhoid has hitherto been the greatest cause of death to British soldiers in peace or war. At the present time a most critical test is being made of the inoculation among troops in active service in South Africa." Also the *British Medical Journal:* "These figures are all in favor of the inoculations. Many of the attacks of typhoid in the inoculated seem to have been comparatively mild, although the fact that the general type of the disease at the time may have been mild must be remembered. The evidence thus far seems to show that the inoculations do exert a distinct effect on typhoid among the troops in India. Let the troops to be sent to South Africa be vaccinated during their period of training, before they go to the seat of war. Officers, nurses and members of the army medical corps, except those who have passed through an attack of typhoid, should be inoculated. Better still, if the treatment can be extended to the rank and file of both regulars and volunteers."

The latest report seen by the writer is a letter from the front, South Africa, and published in England, May 5, 1900. It states that it is still too early to know the results of the antityphoid inoculations in the present campaign.

Frank Billings, M.D., of Chicago, in the *Journal of the American Medical Association* February, 1900, says: "The production of artificial immunity from typhoid fever, as a prophylactic measure, by inoculation with typhoid cultures, has been practised with apparent success. The inoculations, however, are still too few and the results on man too indefinite to allow of positive deductions. Enough has been done to prove the harmlessness of the operation and to encourage a continuance of the practice. Many of the experiments have been weakened by the failure to apply the serum test before and at proper and repeated times after the inoculations."

Our American soldiers in the late military campaign suffered heavily from typhoid. Dr. Victor C. Vaughan, in his recent paper on "Conclusions Reached After a Study of Typhoid Fever Among the American Soldiers in 1898," says: "Every regiment in the United States

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service in 1898 developed typhoid fever, and in all about one-fifth of all the soldiers in the national encampments. The deaths from typhoid were more than 80 per cent. of the total deaths. One who has lived in a camp in which typhoid fever is prevalent is liable to develop this disease any time within eight weeks after leaving such camp."

It is greatly to be hoped that the official reports of the results of the inoculations in South Africa may show another stride forward in the praiseworthy efforts to control this great scourge, not only of modern armies, but of young adult life everywhere.

MALARIAL FEVER, WITH SPECIAL REFERENCE TO THE VALUE OF BLOOD EXAMINATIONS; REPORT OF CASES.[1]

BY HERBERT OLD, M.D.,
OF NORFOLK, VIRGINIA.

IT is the contention of the writer in this discussion to limit himself to the practical side of the question. I think all will agree with me that it is of the greatest importance to be able to be positive of the diagnosis of any disease which we are called upon to treat, and that the sooner the diagnosis is made, the better it is for both patient and physician. Though there are so many types of malaria, and though the symptoms in many cases are extremely vague, nevertheless, there is always present in the blood an organism which can be demonstrated by means of the microscope and thus allow one to differentiate malaria from all other diseases. This examination can be made as soon or as late as we desire after taking the specimen of blood, for the plasmodium malariæ can be seen either in the fresh or in the dried specimen. In hospitals it is more convenient to examine the fresh specimens; but in private practice I prefer to examine the dried.

The technic I employ is as follows: In my medical bag there are always cover-glasses and a large Hagedorn needle. The lower tip of the ear is cleansed with alcohol, which is allowed to dry thoroughly before the ear is punctured; the cover-glasses are washed with alcohol just before use, wiped dry, and protected from dust; absorbent cotton wrapped around the non-sulphur end of a match and soaked in alcohol gives a sufficient alcohol flame for sterilizing the needle; the puncture is made sufficiently deep to obtain the blood without having to squeeze the ear; the first drop is wiped off, and the second one caught on one of the cover-glasses; the two cover-glasses are placed in contact just long enough for the blood to spread, then drawn rapidly apart, and we thus have two spreads for examination. The spreads are now allowed to dry and then placed in a small tin box, there to remain until I am ready to stain them. In order to fix the blood before staining, about one teaspoonful of a 40-per-cent. solution of formaldehyde is placed in the bottom of an ordinary cheese-dish; the spreads of blood are placed in a small butter-plate; the plate is then set in the dish; the cover is placed over the dish, and the spreads are thus exposed to the formaldehyde gas for from fifteen to thirty minutes. The spreads are now stained first with a 1-per-cent. aqueous solution of eosin, washed, and finally stained for from one-half to one minute with a 1-per-cent. aqueous solution of methylene blue. Before mounting the spread on a slide it is best to look at it with a low lens of the microscope to see if it is stained blue enough, which can readily be ascertained by noticing the nuclei of the white corpuscles. After the spread has been mounted it is looked at with the 1-12 oil immersion lens. This method can readily be mastered by any one, and I do not think that any one will deny that the finding of the malarial parasite in the blood is very satisfactory; but, as many still claim that it is not at all necessary, I am going to report a few cases in which the diagnosis was made only through such a microscopical examination.

Case I.—Colored female, aged sixteen years. I delivered the patient of a full-term child on September 5, 1899. The puerperium was normal up to the ninth day, when she had a severe chill followed by fever and sweating. I saw the patient the next day, but she said nothing about having had a chill, and, as the temperature and pulse were normal, and as she seemed well in every respect, I told her I would not see her again for three days. On the thirteenth day I saw her and found that the temperature was 103° F.; pulse 115. She then told me of the chill on the ninth day; that she had had another on the eleventh day and had also had one several hours before my present visit. I ordered broken doses of calomel, put her on light diet, and took a specimen of her blood. The blood examination showed large tertian parasites. I put her on quinine and there was no repetition of the chill nor any further fever. I caught from the walls of the room, in test-tubes, ten or fifteen mosquitoes, two of which proved to be *Anopheles;* the rest were of the *Culex* variety.

Case II.—White female, aged twenty-eight years. The patient's youngest child was two months of age; breast-fed. Patient sent for me on June 25, 1900; she complained of her left breast being very painful and said that she had had a severe chill at 10.30 p. m. the day before. She also complained of severe pain in back, head, and lower extremities. Examination showed the left breast to be very painful on pressure; some superficial redness in upper, outer, quadrant, but there was no marked induration, nor was the breast at all nodular. Thinking the breast signs not sufficient to account for the symptoms, unless she had a submammary abscess with absorption of pus, I made a thorough examination. The lungs and heart were nega-

[1] Read at the annual meeting of the Virginia Medical Society, held at Charlottesville, October 24, 1900.

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tive; the liver normal; the spleen was slightly enlarged and painful on pressure; the tongue was heavily coated; her bowels had not moved for two days. I took a specimen of blood for examination and put her on broken doses of calomel. The blood examination showed tertian parasites, and I can readily assure you that I was delighted to see them. She was put on quinine and all symptoms quickly disappeared.

Case III.—White female, aged nineteen years; schoolgirl. Since the middle of last June the patient had suffered from constant headache, anorexia and constipation. Patient had not been aware of having had any fever, and had had no chill nor chilly sensation. She went to see a physician, who treated her for torpidity of the liver, but there was no abatement of the symptoms. I saw patient at my office on July 23d. She complained of the symptoms mentioned; her tongue was heavily coated; she was quite pale, whereas she usually had a good color. Knowing that there was much malaria in the suburb where she lived, I took a specimen of her blood. Examination of the blood showed numerous large and small-sized tertian parasites. I put her on quinine and arsenious acid and told her to report to me in one week. At her next visit she said she felt much better, but that she still had the headache off and on. I continued the same treatment and asked her to let me see her again at the end of the week. On August 6th she came to see me, said she felt much improved, and wished to go to Baltimore on a visit. As she was still quite pale and had very little appetite, I took another specimen of her blood. Examination showed small tertian parasites, very few in number. I put her on iron, quinine and arsenic, and told her to go to Baltimore, but to keep up her medicine while there. She returned home the middle of September and told me that she never felt better in her life. She now has a good color and is attending to her studies at school.

Case IV.—This patient, a young white woman, had been suffering from headache, anorexia, and continued fever for two weeks. The temperature went up to 102° and 103° F. in the afternoon. The only signs were a coated tongue and a slightly enlarged spleen. A specimen of blood was taken and the examination showed tertian parasites. There were two sets of these parasites, one, large and pigmented, the other, small; there were also hyaline bodies. As the patient was very susceptible to quinine and had been advised by a physician never to take it, she was put on guaiaquin. The fever now became intermittent, but the continued use of guaiaquin, with the addition of arsenic, succeeded in removing the fever entirely. The fever returned in three weeks, and was again successfully treated by the same medication.

Case V.—Young colored man, farm laborer. The patient gave a history of having had "hot fevers" for several days, accompanied by severe headache. There had been no chill. The day before the present visit the patient was prostrated while working in the sun. Examination showed coated tongue, spleen slightly enlarged, bowels constipated. The temperature was 100° F. The specimen of blood showed small, intracorpuscular, ring-formed parasites. The patient was immediately sent to a hospital and broken doses of calomel ordered. The fever rose to 105° F. that afternoon. Quinine was administered and the fever disappeared in three days. The patient left the hospital in a short time, returned to work, but did not keep up the treatment as ordered. The fever returned in three weeks; he was put on quinine for a long period, and he never had any return of symptoms.[1]

Case VI.—White male, aged four and one-half years. The patient has been delicate since three months of age. Was nursed only seven weeks and then given condensed milk. During his second summer he had a severe case of cerebrospinal meningitis. I saw the child for the first time last May, when he was undergoing a severe attack of pertussis. On June 1st the pertussis became complicated with an attack of acute colitis, which persisted, with quite severe symptoms, until June 30th. I was called to see him in August. The history given was that he had had fever every night for the past week; was listless and would eat nothing; no history of vomiting, chill or chilly sensation. On examination the spleen was found to be enlarged; nothing abnormal was found in chest; tongue was coated and bowels constipated. I put him on calomel and took a specimen of blood. Examination showed small-sized tertian parasites. I also examined his urine, which proved negative. Put patient on quinine and all symptoms readily disappeared.

Case VII. — White female, aged thirteen months; breast-fed. I was called to see this child on September 27, 1900. The father had just recovered from an attack of malaria. The mother said that the child had had diarrhea for the past four days, from eight to nine stools daily, green in color; that the child had fever every night; was very restless and fretful and would nurse only a few minutes at a time. Examination showed a well-nourished child with six teeth; no rosary; chest, negative; spleen, enlarged; no fever; coated tongue; there was no history of vomiting. I ordered calomel in broken doses; ordered nothing but barley-water for thirty-six hours and took a specimen of blood. Examination of blood showed large-sized tertian parasites. I put the child on 2½ grains of quinine, four times a day, for three days; then 2½ grains twice a day, for the next three days, and kept up two grains once a day for ten days. All the symptoms readily disappeared and the baby continues well.

Case VIII.—White male, aged seven and one-half months; breast-fed. This case, in which I only examined the blood, is reported by me

[1] Class IV and V illustrate the value of blood examination in differentiating between malarial fever and typhoid fever.

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through the courtesy of Dr. L. T. Royster, who attended the child. Negative family history; child convalescing from pertussis; paroxysms still occurred several times each day. The present illness began April 18, 1900. The child was seen for the first time on April 19th. Examination showed a well-developed and well-nourished child, but who was rather weak from the pertussis. Hygienic surroundings fair; countenance listless; eyes dull; skin dry; pulse 120; temperature 99° F.; respiration 25; tongue dry; anorexia; marked thirst; bowels in good condition; urine in sufficient quantity. Chest, small area of dulness at posterior left base; bronchovesicular breathing; numerous crepitant râles. Afternoon of same day, temperature 103° F.; pulse 160; respiration 48; almost entire lower lobe of left lung was consolidated; paroxysms of cough increased in frequency and force, and after each one there was marked Cheyne-Stokes breathing, which continued for half an hour. On the third and fifth day the temperature rose to 105° F., which was two degrees higher than on the second and fourth days. On the sixth day resolution commenced, the temperature falling to normal. On the afternoon of the seventh day the temperature rose to 105° F. A specimen of blood was now examined and it showed hyaline bodies. Quinine was administered and there was no further rise of temperature.

These are selected cases taken from the record kept of the microscopic examinations made by Dr. Charles R. Grandy and myself. I think they speak for themselves and show of what inestimable value the examination of the blood has been to me.

CLINICAL MEMORANDA.

IS RUBEOLA INFECTION ANTAGONISTIC TO PERTUSSIS INFECTION?[1]

BY WILLIAM BYRD YOUNG, A.M., M.D.,
OF BON AIR, TENN.

THE above question was forcibly presented to my mind last winter during a concurrent epidemic of measles and whooping-cough in my town. Not being an expert microscopist nor pathologist, I shall not attempt to present a research from this field, but will simply give my own experience, with some observations by a few of my colleagues in concurrent epidemics of measles and whooping-cough, in conjunction with the theories along this line of some recognized authorities.

During last winter and spring we had the severest epidemics of pertussis and measles in White County that I have ever witnessed. The whooping-cough made its appearance a few weeks previous to the outbreak of measles. Just about the time measles developed in a few of our families we had under our care, among other cases, four aggravated cases of pertussis in the height of the spasmodic stage. My associate, Dr. H. L. Fancher, and I made the remark one evening, while discussing the two epidemics, that as soon as the four patients mentioned contracted measles there would be four deaths. But to our great surprise not one of the four had a symptom of pertussis after the measles eruption was well developed, and all made an uneventful recovery from both diseases. These were as severe cases of pertussis as one ever sees. Each had almost all the unpleasant symptoms that are found in very aggravated cases during the spasmodic stage—the well-known paroxysms, with the deep purple, almost black, face, the peculiar "crowing" whoop, which in these cases could be heard two blocks away. The vomiting and epistaxis were both very marked. The children (aged from two to four years) would have from fifteen to twenty paroxysms per day. Two of the cases had hemorrhages from the mouth, which I thought came from the throat, with almost every paroxysm.

The question arose, what caused such a sudden cessation of so marked symptoms of the pertussis when it became complicated with measles? Did the germ or toxin of measles destroy or counteract the germ or toxin of the pertussis? Would the marked symptoms of the whooping-cough have ceased in the same way had it been complicated with scarlet fever or some other zymotic disease? Or was it simply a coincidence? I cannot call to mind a single instance in which a child contracted pertussis during, or for some time after, an attack of measles.

Dr. W. A. Hargis of Granville, Tennessee; in a paper on pertussis read before the Upper Cumberland Medical Society last May, reported several cases of whooping-cough during an epidemic of the disease in his town that contracted measles during the worst stage of the pertussis that never had a symptom of the latter disease after they were well broken out. Dr. S. G. Sullivan of Amande, Tennessee, in reporting to the White County Medical Society, May 10, 1900, a concurrent epidemic of measles and pertussis in his neighborhood during the previous winter, spoke of the singularity of the marked cessation of all symptoms of pertussis as soon as the measles rash made its appearance.

It should not be thought incredible that the infection of measles antagonizes the infection of pertussis. There are many instances in which one disease modifies very materially and often eradicates another disease that has previously affected the body. For instance, the members of this Society have all seen old chronic ulcers of the leg, or even on other parts of the body, entirely disappear after the patient had a severe attack of some lingering malady, such as typhoid fever. Dr. A. R. Robinson, Professor of Dermatology in the New York Polyclinic, in a paper read before the Canadian Medical Association in August, 1899, reports a case of cancer of the breast that

[1] Read before the White County (Tenn.) Medical Society, Nov. 8, 1900.

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entirely disappeared and never returned after the patient recovered from an attack of typhoid fever.

We have all noticed patients, whom we might call chronic consumptives, who expectorate freely mucopurulent sputa every day of their lives, who, when they contract acute lober pneumonia frequently have a cessation of thick pus expectoration. A few months ago I was called in consultation with Dr. A. F. Richards of Sparta, Tennessee, to see a woman suffering from an attack of acute lobar pneumonia who had had chronic pulmonary tuberculosis for several years and up to the time of the attack of pneumonia was freely throwing off from the lungs a mucopurulent sputum. After the initial chill of the pneumonia the characteristic tuberculous expectorating ceased. Dr. Richards and I were at a loss to account for this, unless the pneumococci in some way have an unfavorable effect on the activity of the tubercle bacilli or mixed infection that accompanies phthisis.

Those of the Society who have been keeping up with the latest developments in regard to the treatment of cancer have observed the remarkable results that Dr. W. B. Coley of New York has reported in the treatment of cancer by the use of the mixed toxins of erysipelas and the bacillus prodigiosus, injected, when possible, directly into the cancerous growth. Dr. Coley read a paper before the New York Academy of Medicine, March 1, 1900, in which he gives the following results of his treatment of a cancer by the mixed toxins. (See MEDICAL NEWS, Vol. 76, p. 57.) "Of the total number of cases treated, eighty-five were round-cell sarcoma, twenty-one spindle-cell, and nine melanotic sarcoma. Of the round-cell variety forty, or less than half, showed more or less improvement and in three the treatment had been successful. On the other hand, of the twenty-one spindle-cell sarcoma, ten had disappeared entirely, and all the remainder had shown marked improvement." Coley cannot account for the actions of the toxins only on the theory of the parasitic origin of cancer.

Other reports from other experimenters could be cited to show that the toxins of erysipelas and of the bacillus prodigiosus affect and, in a large percentage of cancer cases treated by this method, destroy the parasites and neutralize the toxins of the cancer.

When we see how the mixed toxins of these germs antagonize, so to speak, the deadly poison or parasites of a heretofore incurable disease, is it unreasonable to suppose the germs or toxins generated by the attack of measles did not destroy the parasites or neutralize the toxins of pertussis in the concurrent epidemic referred to, especially when we know that the infection of the two diseases begins its work on the same mucous membrane, that is, of the nasal cavities.

Dr. Charles T. McClintock of Detroit, in a paper read before the Mississippi Valley Medical Association, a few years ago, on the subject of "Enzymes and Immunity," speaking of the influence one germ may have over another germ, says, "That one germ or its products can aid or hinder the work of other germs has long been known, and it has been the dream of many workers that we would ultimately fight disease germs with other germs or their products. It appears as if this dream is about to be fulfilled." Dr. McClintock further says that "Löew and Emmerich report that two cubic centimeters of a solution of an enzyme obtained from the bacillus of green pus will kill two and a half million virulent anthrax germs in five minutes. According to these authors this enzyme rapidly destroys large numbers of the germs of typhoid, diphtheria, plague, etc." Here we have, again, one germ or its products destroying the germ of other diseases.

We would, therefore, conclude that it would be nothing strange or improbable to find that the germs of measles or their products will destroy or neutralize the germs or toxins of pertussis. To say the least, from a careful study of the subject, from the observations of other physicians, and from my own personal experience, it is difficult to believe that the cases above referred to were merely incidental.

COMPLETE TRANSPOSITION OF THE VISCERA.[1]

By GEORGE W. WEBSTER, M.D.,

OF CHICAGO;

PROFESSOR OF PHYSICAL DIAGNOSIS IN THE NORTHWESTERN UNIVERSITY MEDICAL SCHOOL.

THE case which I have the pleasure of presenting is one of complete transposition of the viscera, including the lungs. I believe the lungs are transposed for the following reasons: On account of its size and the angle at which the right bronchus is given off, and possibly for other reasons, the percussion sound on the right side in the infraclavicular space is slightly higher in pitch. In the same situation, the normal respiratory murmur is slightly harsher in quality and raised in pitch and the normal vocal resonance is increased. In this case the normal disparity is reversed, seeming to warrant the conclusion that the lungs are transposed.

Congenital anomalies and malformations of the heart have excited the interest of physicians for nearly a hundred years. Peacock, in 1855, was the first to issue a systemic treatise on the subject, attempting to reduce the different forms of irregular development to scientific arrangement, being guided only partly by the period at which the development of the organ becomes arrested or perverted.

In 1875, Rokitansky of Vienna published a monograph in which he insisted on the importance of studying the anomalies in connection with the different stages of development. Recently Féré has demonstrated that marked modifications in development may be produced in the chick, by injecting pathogenic germs and toxins into eggs undergoing incubation. These experiments show that agents which produce disease during

[1] Read before the Chicago Society of Internal Medicine, November 27, 1900.

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extra-uterine life and later during intra-uterine existence give rise to malformations in the earlier phases of existence.

Ballantyne puts it thus: "The same causes are in action in both periods, but when influencing an embryo so far developed as to have specialized organs, the result is disease. When, on the other hand, influencing an embryo in which such specialization has not been carried on to the same extent, the result is a malformation. In the one case the results are pathological; in the other, teratological."

We are probably justified, therefore, in concluding that the causes of congenital diseases and malformations are similar and may be identical. Among internal displacements, that of transposition of the viscera is perhaps the commonest. Dextrocardia may be present without transposition of the viscera, but such cases are rare.

Two hypotheses have been proposed in explanation of this anomaly. Dr. Frazier suggests that the transposition may be due to the subject having been one of twins which were developed from a single ovum and in which dichotomy was complete. Von Baer has found that in a few instances the embryo lies with its left side directed toward the yolk, whereas the right side is normally in this position.

MEDICAL PROGRESS.

Fractures of the Leg.—Better than the time-honored exact reposition under ether with plaster cast, the extension with weights or the constant elastic traction methods is the employment of the following simple apparatus, says N. KAEFER (*Centralbl. f. Chir.*, Jan. 5, 1900), which he has lately brought out. Its parts are two flat, very strong, roughly-corrugated wrought iron braces about 10 c. m. long by 1.8 c. m. wide, slightly elbowed at one end where plays a screw. This screw is turned out of a hexagonal piece of steel so as to have a right and left thread, with a hexagonal piece between them to serve as a nut, for the approximation or separation of the braces. The application of the device is briefly, a carefully and densely applied plaster splint is cut through circularly so as to leave an upper and lower half separated by an interval of perhaps 3 c. m. Over this space is placed the center of the screw and the braces are rapidly fastened to the splint by many layers of plaster bandage. When all is dry the screw is turned so as to part or draw the half-splints together as indicated. The braces are placed laterally, are so strong that one alone is needed. They have the advantage of being adjustable from day to day.

Pharyngeal Adenoids.—The importance of recognizing the presence of pharyngeal adenoids in the young has certainly never been thoroughly appreciated by the ordinary general practitioner. When we learn that they are responsible for more than one-half of the pathological conditions met with in the ear and that most cases of deaf-mutism are not really congenital, but acquired and due to adenoid vegetations during infancy, the need of more careful investigations into the causes of nasopharyngeal obstructions is readily seen. P. D. KERRISON (*N. Y. Med. Jour.*, Feb. 2, 1901 urges that it is not those cases which present the typical symptoms that are usually neglected, for the diagnosis is then clear, but when only partial obstruction occurs and the symptoms are those of frequent rhinitis, pharyngitis, tracheitis, bronchitis, and mouth-breathing, at least during a part of the day, the underlying cause is liable to be overlooked until the child's development is seriously interfered with or a complication occurs. Careful examinations have shown that the adenoids frequently contain tubercle bacilli, and diphtheria is especially virulent in children with vegetations. The ear complications are, however, the more common serious results secondary to these growths. Lesions of the conducting portion of the auditory apparatus first appear, such as tubal catarrh, otitis media and mastoiditis, but the internal ear may also be affected. Adenoids usually atrophy at puberty, but it is not very uncommon to see people of adult or even middle life suffering from the effects of these growths. Thorough removal is the only rational treatment. A general anesthetic is usually advisable and the adenoids grasped and removed by forceps specially constructed. The site should then be curetted with a Gottstein curette to remove every shred, for adenoids tend to recur if any part is left.

Arsenical Dermatitis.—This condition usually results from a prolonged use of arsenic under a physician's direction or to occupation exposure. An unique case is reported by A. H. OHMANN DUMESNIL (*N. Y. Med. Jour.*, Feb. 2, 1901) in which a woman took over a dram of "Rough on Rats" with suicidal intent. Her stomach was washed out twice within a few hours. On the second day she presented a vesicular and pustular eruption on the hips, face and nose and a small patch of confluent vesicles on either buttock. She complained of a burning sensation and of some itching. The appearance of the eruption after a single toxic dose and the location of the lesion were considered unusual.

Tuberculin Test.—After a wide experience in the use of this test for diagnostic purposes in cases of suspected tuberculosis, J. M. ANDERS (*Internat. Med. Mag.*, Jan., 1901) concludes that it is a very valuable aid. Out of 3638 cases a reaction was obtained in 2185. The number that were clinically doubtful at the time of the injection was 1468 and 70 per cent. of these reacted. It is advised, however, that it should be used in medium-sized doses and only in those instances in which the diagnosis is very doubtful or otherwise impossible.

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Oxygen Treatment of Uric-Acid Lesions.—The presence of an excess of uric acid or its compounds in the blood is supposed to be due to a diminished power of oxidation on the part of the organism, and either a diminution in the proteid food or an increase in the oxygenation process may be induced to counteract the condition. A. C. CROFTAN (*Internat. Med. Mag.*, Jan., 1901) believes that the uric acid is non-toxic, but that the alloxuric bases which are closely allied are very poisonous and depend upon the oxidation power. The metabolic processes resulting in chemical oxidation occurs not only in the blood as it passes through the lungs, but also in all the tissue cells. To raise the oxygenation in the blood one may improve the quality of the inspired air or the number and activity of the red blood-cells. Inhalations of oxygen give uniformly good results, especially striking in functional disorders. The gas is procured in cylinders of 50 to 200 gallons at from four to seven cents per gallon. Rubber-bags, holding about five gallons, are filled with the gas which is inhaled by long deep breaths. The séance lasts about five minutes and is repeated daily at first. With this mode of treatment, diet and climate are usually combined if possible.

Skin in Scarlet Fever.—The rash is made up of small puncta, writes J. F. SCHAMBERG (*Proceedings Phil. Path. Soc.*, Jan., 1901), surrounded by erythematous areolæ, which may coalesce or leave normal areas of skin between. The punctæ are often about the hair-follicles, or there may be a general "goose-flesh" papulation. Minute discrete vesicles are common, and sometimes become so large and abundant as to deceive the physician. The area between the punctæ represents an acute dermatitis, the goose-flesh results from an infiltration in and about the hair-follicles, and the vesicles originate in the follicles or in the deeper layers of the *rete*, contain a turbid leucocytic fluid, and dry up to form powdery scales on the surface. The punctæ are either infiltrated hair-follicles or dilated blood-vessels with intense perivascular exudation.

Congenital Stenosis of the Pylorus in Sucklings.—In a recent monograph GILLOT (*Thèse de Paris*, 1900) has gone over the literature of the subject and reaches some interesting conclusions, regarding this condition, based on critical consideration of the thirty-three cases which he was able to gather. Even some of these cases, the author finds, are not entirely reliable. In the first the affection is admittedly very rare, and only diagnosticated on the post-mortem-table in the majority of cases. Nevertheless Gillot believes that closer study of the symptomatology will enable and facilitate diagnosis in the future. The vomiting, constipation, and rapid wasting, notwithstanding irreproachable feeding, are considered the cardinal symptoms upon which a diagnosis may be reached. The condition is considered under two heads, that relating to organic stricture of the pylorus and that merely due to spasmodic contraction of the pyloric ring. All of the cases which have been treated medicinally have succumbed; therefore, the author urges gastro-enterostomy as a promising and logical treatment.

Perineorrhaphy.—H. FRITSCH (*Centralbl. f. Gynak.*, Jan. 12, 1900) makes the following points regarding this operation. Two principals are vital: (1) Remove no tissue if possible, sacrifice nothing while in the old sense "freshening" the wound, but rather divide so as to approximate the proper parts each to each; (2) unite with accuracy the torn ends of the sphincter. The first-named goal is easy to attain in recent cases, when the freshly-lacerated tissue can still be brought together and is in itself scar-free; but when the tear has existed some time, and especially when one or more operative attempts at repair have failed, the amount of cicatricial tissue is so considerable that the work becomes at once difficult. The vagina and rectum are often adherent and the external sphincter reduced to a functionless semi-circular muscular band. The two viscera must at first be freed, each from the other, then the rectum sutured, next the intervening connective tissue and, finally, the vagina with the skin. Often the sphincter will be found so contracted that the little finger can scarcely be passed into it, and it forms a barrier for gas, mucus and feces. These collect in the ampullae recti above, also contracted by disuse, and soon force the wound open again completely or partially or, invading the new perineum, cause fistula. For such cases at the time of the operation a rubber tube wrapped with gauze may be inserted through the anus to act as a vent. Simon has suggested and the writer has tried division of the sphincter in the middle line posteriorly toward the sacrum as a preliminary step in the operation, but results in a painful granulating wound. Hence the author now divides the sphincter after the plastic work is completed subcutaneously. The results show that function returns as well as it does after fistula-in-ano operations. For the deep sutures non-absorbable material is recommended.

Complete and Immediate Withdrawal of Drug in a Cocaine Habitué.—GEORGE WILLIAM NORRIS (*Phila. Med. Jour.*, Feb. 9, 1901) reports the case of a dentist, aged thirty years, who had been using cocaine for ten months. At first he had used the drug locally for hemorrhoids, but after the cessation of the pain he still continued to use the drug by hypodermatic injection in gradually-increasing doses, until his average was sixteen grains a day. Insomnia was constant unless he took cocaine in small repeated doses. He had hallucinations of hearing, and finally, becoming alarmed at his condition, sought medical advice. The cocaine was completely and immediately withdrawn. He was given strychnine sulphate, grain $^1/_{30}$, every fourth hour, and sulfonal,

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grains 20, repeated in two hours. During the first night the patient slept fairly well, and on the second he required no hypnotic whatever. He felt well and had no craving for the drug. The interesting points are: (1) That sudden and entire withdrawal of the cocaine after long-continued use in large doses required no more active therapeutic substitution without producing physical effect; (2) that the patient after the first twelve hours had little craving, but remained quietly in bed without suffering any of the agonies usually experienced on the discontinuance of a long-established drug-habit. The writer also tabulates the following facts concerning acute and chronic cocaine intoxication: (1) Cocainism is the most insidious of all drug-habits. The use of the drug being unaccompanied by disagreeable after-effects, the vice is readily and rapidly established; (2) cocainism is occasionally acquired by the local use of the drug in diseases of the nose and throat, teeth, etc., but more often as a substitute for opium or alcohol; (3) cocaine is eventually tolerated by the system in huge doses; (4) a relatively large number of habitués are found in the medical and dental professions; (5) the continued indulgence in cocaine invariably, and usually soon, leads to marasmus, with mental, moral, and nervous degeneration; (6) the smallest fatal dose on record is $^1/_3$ grain hypodermatically; (7) while many cases of acute intoxication are being continually reported, there are relatively few fatal cases, the majority of such being the result of large doses injected into the urethra and bladder; (8) the amount of cocaine sold yearly is rapidly increasing, and its self-prescribed use among the laity and lower classes becoming proportionately more frequent.

Sterilization of Catheters.—M. W. HERMAN (*Centralbl. f. Chir.*, Jan. 19, 1901) has found that silk catheters may be boiled without damage in a solution of ammonium sulphate, precisely after the method of Elsberg for boiling catgut. The smoothness of their inner and outer coats, their elasticity and their general wearing qualities are not affected by boiling continuously or interruptedly. The catheters may be taken directly out of the solution and used, without apparent damage to the urethra by chemical irritation. The author has found the same method adequate for sterilizing Nélaton's catheters, elastic sounds, ball-sounds, filiform bougies and similar instruments.

Syphilis and Exophthalmic Goiter.—R. ABRAHAMS (*Phila. Med. Jour.*, Feb. 9, 1901) reports in detail the cases of three women in each of whom syphilitic symptoms were followed by undoubted symptoms of exophthalmic goiter. All symptoms, both of the syphilis and of the exophthalmic goiter, disappeared as the result of vigorous antisyphilitic treatment. The writer believes that syphilis was the etiological factor in these cases of Basedow's disease, and from these cases summarizes the following conclusions: (1) The occurrence of exophthalmic goiter in three undoubted syphilitics cannot be regarded as either accident or coincident; (2) the old dictum which relegates the origin of exophthalmic goiter to a perturbance or disturbance in the cervical sympathetic system should receive attention only after the existence of syphilis, present or past, be absolutely excluded; (3) those cases which yield to mercury or the iodides should be favorably looked upon as being of syphilitic origin; (4) cases in which all the orthodox remedies fail should be put to the test of specific treatment; (5) cases which are characterized by gangrene of the extremities, various pigmentation of the skin, nocturnal headaches, or other suspicious luetic symptoms, should receive the benefit of specific remedies.

Peaceful Narcosis.—For the acquiring of peaceful and regular breathing under narcosis C. HOFMANN (*Centralbl. f. Chir.*, Jan. 19, 1901) says the following points must be observed: It is an error to confide narcosis to an inexperienced person. A competent assistant is the only one who should have this in charge, whether chloroform or ether be used the drop-by-drop method upon an Esmarch inhaler will be found best, and, by beginning very slowly and evenly, almost all the unfavorable signs will disappear. A small dose of morphine about an hour before the narcosis is advisable.

Post-operative Hernia.—After reporting in detail six cases of post-operative hernia, illustrating the conditions found in this class of hernia and the steps of the operation for their cure, and discussing the conditions which predispose to the development of post-operative hernia and the measures which should be used to minimize these factors at the time of the operation, IRVING S. HAYNES (*Phila. Med. Jour.*, Feb. 9, 1901) gives a few practical directions for the radical or operative treatment of this condition: (1) Make the incisions on each side of the old scar in healthy skin, even though a large segment must be excised; (2) look for and recognize the various muscular or fascial planes at a distance from their involvement in the scar, then incise the layer near the scar, but in normal tissue; (3) divide the peritoneum far enough from the cicatrix, so that its normal features are easily recognized; (4) severe adhesions of the hernial sac to viscera or omentum, between ligatures when necessary; (5) an omental stump is to be covered up by rolling it into the omentum and keeping it there by a running suture of free catgut; bare surfaces of intestine should be covered by bringing the peritoneal coats together. Subsequent adhesions are thus prevented; (6) close the wound with chromic catgut. It is taken for granted that all oozing has been arrested. The patient should rest in bed for three weeks afterward, if possible.

Tracheotomy for Foreign Body.—H. MILTON (*Lancet*, Jan. 26, 1900) narrates the history of a case of foreign body in the bronchus removed by intrathoracic tracheotomy, as follows: The forty-year-old patient had undergone trache-

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otomy of a syphilitic cicatricial stenosis of the larynx some years before his readmission. The curved silver tube had loosened gradually from the collar and then fallen into the trachea. When admitted the man did not show urgent symptoms. Attempts to reach the tube through the tracheotomy opening failed. The signs of fetid bronchitis developed and operation was determined on. Chloroform anesthesia was adopted. The muscles and tissues at the presternal notch were freed and, with the finger, protecting the great vessels, the strenum was divided from end to end and its halves separated for two inches. By retracting the great vessels and drawing the trachea upward, it was possible to open it just over the bifurcation. The tube was then withdrawn. The septic condition caused a bronchitis, then pneumonia and abscess of the anterior mediastinum. Death followed. The author thinks a subperiosteal ablation of the manubrium sterni would have afforded a better drainage, although the sepsis already present was the fatal element in this case, which is his second.

Gastric Perforation.—Pain in the thoracic parietes situated in the scapular, subscapular or interscapular regions, observes J. L. FAURE (*Semaine Médicale,* Jan. 23, 1900), is a very frequent accompaniment of intra-abdominal and subdiaphragmatic lesion. The presence of this pain, though itself of the type of *referred pain,* is very important and suggests the abdominal contents as the true underlying source. It is consequently urgently necessary at the onset of other signs of visceral disease below the diaphragm to ascertain whether these high-seated pains were long antecedent to, immediately coincident with or distinctly subsequent upon the other symptoms. The writer says that the most frequent process causing this pain is a perforation of a gastric ulcer, which seems prone to refer its pain to the interscapular region, near the midline. Hence in the presence of it, concomitant or subsequent to other signs, exploration of the stomach through the epigastrium is at once indicated.

THERAPEUTIC HINTS.

Cerebrospinal Meningitis.—Depletion is to be condemned, says F. B. MAYNARD (*Albany Med. Annals,* Nov., 1900), as the homogenetic function of the body is largely suspended. The cold pack is most valuable, the patient being stripped and placed in a twice-folded, wet sheet, with his head on an ice-bag, two-thirds full of water and crushed ice. The constipation yields to calomel. Potassium bromide is the best routine drug, with potassium iodide to promote absorption of the exudate, and alcohol and morphine as indicated. Lumbar puncture is of no therapeutic value, the antistreptococcus serum may prevent the exudation, becoming purulent, and Credé ointment may prove of similar value. The latter, however, requires twenty minutes' friction to insure absorption, and this would not be possible on account of the intense hyperesthesia caused by the disease.

Exercise in Tuberculosis.—PARKER MURPHY (*Albany Med. Annals,* Nov., 1900) instructs his patients to breathe deeply, and, when the fever declines, to perform extension movements, slowly raising the arms to the horizontal, then over the head until the hands meet, at the same time slowly and deeply inspiring and expiring. All the exercises to increase the lung cavity must be coincident with deep breathing. The importance of expanding and revivifying as soon as possible a lung the nutrition of which is depressed can hardly be overestimated.

Tuberculous Spondylitis.—Forcible correction of deformity, writes A. C. WIENER, (*Medicine,* Feb., 1901), is indicated only in recent cases. The reflex spasm yields soonest to extension in bed, then the patient can be gotten up and with an extension apparatus can be out-of-doors. A little weight at night relieves pain and favors sleep. In paraplegia, laminectomy is indicated only in those rare cases of sudden development of the kyphos with paralysis. The gravitation abscess is best not opened and drained, as it forms a persistent sinus, but about once or twice a week the fluid may be withdrawn by a trocar, and carbolic acid, from 6 to 15 drops of a 95-percent. solution slowly injected.

Nephritis.—To encourage diaphoresis in acute nephritis JOHN PERRIER (*Cleveland Med. Gaz.,* Feb., 1901) puts patients to bed between woollen blankets, and gives hot drinks of lithia, lemonade or plain water; if there is fever add liq. ammon. acetat. and aconite or veratrum viride. Make diet of bland, nutritious liquids, and open bowels with saline cathartics in hot concentrated solution. In severe cases the hot-air bath, with a lamp and tin pipe arranged to make hot air pass beneath the bedclothing, may be of benefit. The nausea and vomiting usually respond to fluid diet and frequent, small doses of hot water, carbonated waters, cracked ice, bismuth and morphine, or to sinapisms over the epigastrium. For suppression of urine apply linseed-meal poultices containing mustard, to loins every four hours. Where uremia is threatened the hot pack, and for convulsions, chloroform, are indicated, and if the heart is full and strong pilocarpine is good. When all other means fail, the subcutaneous injection of normal salt solution, about 1 liter (one quart) every 6 to 12 hours, is most valuable, or it may be given by high enema. The most effective cathartics in uremia are elaterium or croton oil in small dose frequently repeated, and combined with calomel. As improvement begins, give farinaceous foods and a tonic of quinine or other bitter, with iron for anemia. Avoid meats and alcoholic stimulants.

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SATURDAY, MARCH 2, 1901.

WHY IS THERE NO DOCTOR?

VICE and its henchman are in deep waters and the wave of reform threatens to sweep many a well-anchored institution in this city. We have hitherto had amateur reforms, most excellent and virtuous, by self-appointed committees of one, by churches and by moralists, that have simply raked the seeds of iniquity out of their hot-beds and sown them a little more widely over the whole city. But we have hopes that the Committee of Fifteen will accomplish something more by its methods than inciting the organization of specially sensational raids to fill yellow journalism's columns.

There is but one trace of the amateur in the Committee's make-up, in that it dispenses with the services of one of the most important classes of citizen, almost the only one that can contribute a scientific element to some of the most intricate phases of the investigation, namely, the physician. There is no expert medical man on the Committee, and if the reform, from the aspect of the social question, at least, is to be anything more fundamental than the periodic outburst of righteous indignation in the past, it must go deeper and be placed on a physically scientific as well as moral basis. We therefore commend the action of the New York County Medical Society in the proposed appointment of a committee to investigate the medical features of the social evil of this city.

It is comparatively simple to arouse public sentiment; but public sentiment is a drowsy watcher and quickly falls asleep. It is easy to chase off the birds of prey; but the vultures that hover over the city's sins are keen-eyed and hungry, and experience has shown that after each clamorous reform they have stealthily and silently come back to their pickings in greater number than before.

Many moralists seem to be content when they have closed the gambling-houses and places of prostitution, and made laws to annoy their proprietors; but reform, scientific reform must go deeper. The question comes back to one of a physiological and psychological basis which a man with a wide medical experience can best understand.

Perhaps the Committee of Fifteen have felt that the presence of a physician would only dampen their ardor by forcing them to a pessimistic realization of the situation. If that is the reason for their having no doctor among their number, they cannot have analyzed the social question very carefully.

It is true, a physician understands, as no other man can, that vice cannot be stamped out like smallpox by a vigilance committee. He realizes that the sexual appetite is a normal one that demands gratification; but he knows, to the very dregs, the cup of bitterness, the loathsome sickness, the diseased offspring, the premature death and the misery of home life that come from the traffic of prostitution as it has existed for years in New York.

The terrible drain on the community's health that is caused by the protection of vice in this city is enough to demand the presence of a physician on the Committee. The moral question, from the ethical standpoint, is almost trivial compared with the grave physical and economic problems of the question, and we believe that the Committee of Fifteen is facing these wisely and well, but we would be glad to know that it had the benefit of the technical knowledge of a trained medical man.

THE BACTERIA CONCERNED IN THE DEVELOPMENT OF BRONCHITIS.

UP to the present time it must be admitted that our knowledge of the bacteriology of bronchitis has, on the whole, been extremely meagre. Although the subject of considerable investiga-

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tion in the past, the etiological significance of the bacteria ordinarily encountered in bronchitic secretion seems less clear than many would suppose, even at the present day. The problem of the infective nature of bronchitis has been so closely linked with that of the bacteriology of the normal air-passages that the conflicting views entertained regarding the latter have necessarily much influenced the interpretation of experimental studies the object of which was the determination of the micro-organisms capable of inducing inflammation of the bronchi under ordinary conditions.

Whilst there can really exist little doubt in the minds of most students of the subject as to the infective character of bronchitis, either that of primary or secondary nature, some investigations, mainly those of Baumgarten, Hoffmann, and Dürck, were, however, sufficient to invite reconsideration of the question whether or not bacteria were normally present in the bronchi and lungs. For the most part those who have studied this question conclude that the healthy bronchi are usually sterile and that the mass of bacteria commonly present in the air are wholly or in large part, at least, arrested in the passage of the inspired air through the upper air-passages, the removal being mainly effected by the nasal mucous membrane and the adenoid tissue of the pharynx. Such is the opinion of Hildebrandt, Müller and Barlow.

W. T. Ritchie (*Jour. of Path. and Bact.*, Dec., 1900), who has recently gone over the ground in connection with his studies upon the bacteriology of bronchitis, takes this view also. The careful research of Béco published two years ago, it is interesting to note, does show that the normal lung may occasionally contain pneumococci, streptococci and sometimes staphylococci, the very organisms which are usually considered as causative factors in bronchitis. This is, however, admittedly exceptional and scarcely of sufficient importance to modify the general conclusions which Ritchie reaches.

The results of Ritchie's studies were based upon careful bacteriological examinations of the bronchial secretions of living and postmortem material. These show that acute bronchitis is always an infective disease induced by no one specific micro-organism; several varieties of bacteria were practically always demonstrated, conclusively showing that in the later stages, at all events, bronchitis is a mixed infection. It is probable that any one of the pathogenic bacteria isolated may singly incite bronchitis; whether this is always so in the beginning is difficult to say, but it is probable that only one organism is often alone the primary excitant.

Among the numerous bacteria considered of causative importance may be mentioned the streptococcus, the diplococcus pneumoniæ, staphylococci, influenza and diphtheria bacilli, bacillus pyocyaneus, colon bacillus and certain encapsulated bacteria; a wealth of saprophytic micro-organisms were likewise isolated. The most important causal bacteria are the pneumococcus and streptococci. The induction of bronchitis by such an excitant as the diphtheria bacillus without throat lesions is of great interest, as is also the finding of the influenza bacillus as a pathogenic factor in bronchitis independent of epidemic influenza; this is in accord with the observations of Wynekoop, Lartigau, and others who have established its presence in various lesions when the epidemic disease was not prevalent. The association of the bacillus pyocyaneus with acute bronchitis adds another lesion to the increasing list in which this organism has conspicuously figured.

Dr. Ritchie's work is the most important contribution to the bacteriology of bronchitis within recent years; and, although by no means conclusive in all particulars, the results will certainly encourage others to investigate along the same general lines, endeavoring to elaborate the subject from a more critical and less general point of view.

THE SURGICAL TREATMENT OF CHARCOT'S JOINTS.

ARTHROPATHIA TABICA is fortunately of comparatively infrequent occurrence and surgical intervention has not been tried in many cases. In the *Zeitschrift für orthopädische Chirurgie*, Band VII., Heft 2, Ahrens, an assistant of Hoffa in Würzburg, reviews the literature of this subject, and discusses the etiology, pathology, prognosis and treatment of these cases in a thorough manner. He also reports three cases which have come under his care.

He is not inclined to favor operative treatment in these affections as a result of his study of the cases which have been reported in literature. He quotes Ullman's tabulation of eighteen resections of tabetic joints. In ten cases the knee was affected, but in only nine does he believe that the condition was certainly tabes. Out of these nine

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cases not a single favorable result is reported. Two of the patients died a short time after operation. In three patients, amputation was necessary later; in one non-union resulted and of the remaining patient no further report is given, which Ahrens considers evidence that the result was not a favorable one. He believes that arthrotomy with drainage is unlikely to give any permanent result and that operative intervention is not indicated except in rare cases in which tuberculosis or a suppurative process supervenes. In the three cases which he reports an orthopedic apparatus giving support to the affected limb was used with decided improvement in all. The patients were able to get about with the apparatus in all of the cases, although previously unable to walk. This leads Ahrens to favor strongly conservative orthopedic treatment in such conditions.

Although the evidence seems to be strong in favor of the conclusions just given, there are still conservative surgeons of good judgment who favor resection and arthrotomy in certain cases of Charcot's joint. Probably too few cases have been reported as yet on which to base any very definite conclusions. At least one or two favorable results have been reported which have escaped Ullman's notice in the tabulation which Ahrens quotes. It is impossible to say just what might be obtained by earlier operation in these cases if an early diagnosis of the condition were possible. In most cases the condition of the patient could hardly be made very much worse even if death resulted.

ECHOES AND NEWS.

NEW YORK.

New York Academy of Medicine.—The order of the stated meeting of the New York Academy of Medicine for March 7, 1901, is as follows: "Discussion on Alcohol and Alcoholism," by Prof. R. T. Chittenden, of Yale University, and "A Discussion of Alcohol as a Food; Its Direct Action on the Nerve-Cell; Its Effects on Americans, and the Aspect of the Law and the Inebriate," by Drs. A. A. Smith, M. Allen Starr, H. M. Biggs, Walter B. James, J. Ewing, Joseph Collins, and others.

New York State Medical Association.—On February 12th the Orange County Medical Association was organized with Dr. M. C. Conner of Middletown, President; Dr. F. W. Dennis of Unionville, Vice-President, and Dr. C. I. Redfield of Middletown, Secretary and Treasurer. Drs. C. Townsend, R. A. Taylor, W. E. Douglas, E. D. Meyers, Joseph B. Hallett, William Evans, Charles A. Canfield, Edward Woodhull, Henry B. Swartwout and E. A. Nugent were elected members of the various committees required by the By-Laws of the State Association.

The Sullivan County Medical Association was organized on February 19th with the following officers: President, Dr. C. S. Payne, Liberty, N. Y.; First Vice-President, Dr. Frank Howser, Centerville Station, N. Y.; Second Vice-President, Dr. S. W. Wells, Liberty, N. Y.; Secretary, Dr. J. L. C. Whitcomb, Liberty, N. Y.; Treasurer, Dr. C. W. Piper, Wurtsboro, N. Y.

New York Skin and Cancer Hospital.—The Governors of the New York Skin and Cancer Hospital announce the following course of clinical lectures on Syphilis, by members of the visiting and consulting staffs, on Wednesday, at 4.15 p. m.: March 6th—Syphilis as a Disease; Modes of Infection; Extra-genital Syphilis, by L. Duncan Bulkley, M.D. March 13th—Skin Manifestations of Syphilis, by L. Duncan Bulkley, M.D. March 20th—Infantile Syphilis, by A. Jacobi, M.D. March 27th—Syphilis of the Mouth, Nose, Throat and Larynx, by D. Bryson Delavan, M.D. April 3d—Syphilis of the Eye and Ear, by David Webster, M.D. April 10th—Syphilis of the Nervous System, by Edward D. Fisher, M.D. April 17th—Syphilis of Internal Organs, by Edward G. Janeway, M.D. April 24th—Syphilis of the Bones and Surgical Relations of Syphilis, by Willy Meyer, M.D. May 1st—Synopsis, Conclusions, and Treatment of Syphilis, by L. Duncan Bulkley, M.D.

The Hospital has just received a second $5,000 from the heirs of Emily A. Watson, of New York, to endow another free bed.

Sanitary Water Patrol.—The Committee on Public Health of the Medical Society of the County of Kings has just completed a report of its investigation of Brooklyn's water supply. After receiving the report, the Society followed out its recommendations by adopting resolutions recognizing that certain sources of the borough's water supply were a menace to health and urging the Department of Health and of Water Supply to establish a sanitary patrol of the whole watershed and to construct a sand filtration plant. The committee reported that Brooklyn's water supply is "primarily a good, clean water of excellent character," obtained from surface ponds and streams and from driven wells. Analysis shows that pollution increases gradually from east to west and reaches its maximum at Springfield and at Baisley's ponds. The Department of Water Supply assured the committee that these two sources have been shut off from use. That drainage from cow and horse stables and vaults pollutes the water supply is shown by analysis, establishing the presence of the bacillus proteus and of the colon bacillus, both of which inhabit the intestinal canal of men and of many domestic animals. The biologist of the department, Dr. Whipple, reported

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that, although the water was still polluted, there was an improvement since 1898. The report says the resumption of the patrol system is the only means of assuring a pure water supply for large cities. The report also quotes Water Commissioner Dalton to the effect that with the completion of the Milburn pumping station Brooklyn will be relieved from the danger of a water famine.

New York Eye and Ear Infirmary.—The new "Platt Pavilion," a department of the New York Eye and Ear Infirmary devoted to the reception and care of contagious diseases of the eye, was opened for public inspection last week. The new department has been erected through the generosity of the family of the late Justin A. Bliss. A tablet in the hall of the pavilion reads: "In memory of James N. Platt, by his sister, Evelina C. Bliss, and his nieces, J. Adele Stafford and Ida E. Bliss." The pavilion, which is separated completely from the rest of the infirmary, is a three-story brick structure. It contains at present two public wards, each equipped with six beds. Six single rooms are set aside for the use of patients who pay for accommodations. The building is equipped with the most improved sanitary and mechanical arrangements. It has its own sterilizing and ice-making plants, as well as a small crematory for the destruction of infected material that cannot be sterilized. On the ground floor are a large, well-lighted operating room and rooms for offices and clinics. All the rooms are large and fitted with double sets of blinds, so that any degree of light may be admitted. All the furniture is made of enameled steel or of glass. The beds and chairs are of enameled steel; the table-tops of glass. There is no wooden furniture at all. The building is heated by a new process of pure air passing over coiled heating pipes, and the temperature of each room can be graduated. Provision has been made so that the size of the present building may be increased by an additional two stories. The officials of the infirmary say that it is only a question of a short time when the new addition will be needed. The pavilion as it stands now, so it is said, cost about $40,000. There is only one other hospital for the care and treatment of contagious ophthalmia in America; that in connection with the Massachusetts Eye and Ear Infirmary of Boston.

PHILADELPHIA.

Medico-Chirurgical College of Philadelphia.—This institution offers a Special Quiz Course for the Preparation of Candidates for the Medical Corps of the United States Army, Navy and Marine Hospital Services, and for State Board and Hospital Examinations.

Ovariotomy in the Eightieth Year.—Dr. Wilmer Krusen reports the removal of cysts of both ovaries from a woman eighty years of age, the patient making a good recovery. The combined weight of the cyst was fifteen pounds. A notable point was their slow growth, the patient having first noticed the abdominal tumor twenty-six years ago.

Fire at St. Timothy's Hospital.—Fire in the administration building of St. Timothy's Hospital, Roxborough, February 20th, caused a damage estimated at $1,500. No patients are kept in that building and a panic in the wards of the other buildings was averted by the coolness of the nurses. Two night nurses and a watchman who were sleeping in the building escaped without injury.

Dr. Keen to Travel.—Dr. W. W. Keen has asked for one year's leave of absence from his duties at the Jefferson Medical College in order to take a trip abroad which will probably extend around the world. Dr. Keen will start on his journey immediately after the meeting of American Medical Association in June, and will return to resume his teaching and practice in September, 1902.

Editorial Change.—It is announced that Dr. Francis R. Packard will shortly assume editorial charge of the *American Journal of the Medical Sciences*, succeeding Dr. Alfred Stengel, whose rapidly increasing duties have compelled his resignation. Dr. Packard is so widely known to the profession as a writer and clinician as to insure that the *Journal* will, under his management, continue to acceptably fill its high position as the leader among the monthly medical periodicals.

Typhus Fever in Philadelphia.—Frederick Edwards, who came from England on the "Oceanic," February 20th, and wandered about this city for five days, was found to be suffering from typhus fever when admitted to the Philadelphia Hospital Tuesday. He was at once sent to the Municipal Hospital, the house at which he had been staying was fumigated, and every effort is being made to prevent the spread of the disease. The New York health authorities were at once notified.

Hospital Investigation Demanded.—Attorney Tobin of this city has made a protest to the Speaker of the House against the passage of the bill appropriating State money to the West Penn Hospital of Pittsburg and asks for a legislative committee to investigate charges which he prefers against the hospital authorities. Mr. Tobin is attorney for the widow of William H. Daley, a Philadelphian, who died in the West Penn Hospital in February, 1900, under circumstances which gave rise to much comment at that time.

Philadelphia Hospital.—Ten additional physicians and surgeons have been added to the staff of the Philadelphia Hospital as a preliminary to making that institution one of the greatest hospitals in the world. The proposition, as approved by the Mayor and Dr. John V. Shoemaker, President of the Board of Charities and Correction, contemplates the establishment of two new public institutions and the entire rebuilding and reorganization of the Philadelphia Hospital. To insure the highest possible standard of professional

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efficiency, the managers of the Medico-Chirurgical College, the medical department of the University of Pennsylvania, and the Jefferson Medical College were invited by the Mayor and Dr. Shoemaker to suggest the names of specialists who would properly represent those institutions upon the staff of the hospital. The staff was enlarged so that each college could name two specialists.

Pennsylvania Medical Journal.—Beginning with the March issue certain changes will be inaugurated in the nature of this publication. In the first place, the publication will hereafter be known as the *Medical Bulletin of the University of Pennsylvania*. Secondly, it will contain no advertising matter. Thirdly, the form will be somewhat changed; the pages will be larger and the matter printed in double instead of single column. These constitute the essential alterations. The policy and scope of the magazine will not, however, be affected thereby; it continues to be the official journal of the Medical Department and Departments allied to Medicine of the University of Pennsylvania Medical Society and of the William Pepper Laboratory of Clinical Medicine. Its contents will consist of original articles, complete and carefully prepared digests of the most recent literature upon a subject of practical or scientific importance, alumni notes and book reviews. The liberality of the Board of Trustees alone has made possible these radical changes in the construction of the magazine. The removal from its columns of all advertising matter converts the publication into one of much greater dignity and one much more befitting the Corporation and School it represents. The attention of the subscribers is further called to the fact that, while the proposed *Bulletin* will contain fewer pages, it will in reality contain more original material than has heretofore been furnished.

CHICAGO.

Medico-Legal Relations of Ocular Diseases and Injuries.—At a joint meeting of the Medico-Legal Society of Chicago and the Chicago Ophthalmological and Otological Society, recently held, this subject was discussed.

Damage Suits from the Standpoint of the Ophthalmologist.—Dr. F. C. Hotz discussed the different valuations people put upon the lost eye. He pointed out the different motives for bringing suits and outlined what physicians and lawyers could do to prevent suits of this kind.

Nervous Affections of Eye Caused by Accident.—Dr. Hugh T. Patrick mentioned the most common complaints, their nature, evolution, detection and prognosis. He also dwelt upon the subjective symptoms and objective signs. He pointed out the difficulty of distinguishing hysteria on account of exaggeration and simulation.

Legal Basis of Compensation in Injuries of Eye.—Hon. Joseph E. Gary, Judge of the Superior Court, discussed this phase of the subject. For injuries inflicted through negligence only, without malice, compensation is the rule at law. Compensation includes not only pecuniary loss, but also physical and mental pain, impaired enjoyment of life, and probable prospects. This rule is uncertain in application, because juries have no guide as to loss, other than pecuniary, except their own judgment. In cases of injury through malice other factors enter into the estimate.

Economic Value of Vision.—Dr. H. V. Wurdemann of Milwaukee, Wis., read a paper on this subject, in which he stated that the earning ability of a bodily function is the only fixed economic factor; visual earning ability can be exactly estimated and is synonymous with full earning ability. He mentioned formulæ for full and visual earning ability. Factors are central visual acuity, visual field, ocular musculature, and ability to compete. Economic and scientific standards for vision were dwelt upon, also the economic limitations of trades. He presented tables and diagrams for mathematical calculation. He stated that pecuniary loss was dependent upon lessened visual powers, the nature of the business, and the age of the individual, and that the economic damage should be made the basis for indemnity. Many examples were given.

Dental Department of the University of Illinois.—The Chicago College of Physicians and Surgeons (Medical Department of the University of Illinois) will soon establish a dental department.

Chicago Lying-In Hospital.—It is reported that the demand for rooms is so great in this institution that the managers contemplate enlarging the building at once. Plans have been prepared and it is expected that the work may be begun in the spring. During the past year 974 patients were treated, and 11,129 visits made.

The Smallpox Situation.—It is said that only 17 new cases of smallpox have occurred during the week. At the close of the previous week there were 44 cases in the isolation hospital; 17 were admitted during the week, and 23 discharged, with no death, 38 remaining under treatment. With one exception the cases are mild. It is announced that the stock of glycerinated vaccine-lymph on hand has ripened sufficiently to make the resumption of vaccination safe.

Clean City Ordinance.—Health Commissioner Reynolds recently stated that ordinary house flies, fleas, mosquitoes and other insects that prey upon man and animals, in addition to rats and mice, are certain carriers of disease. The best way to destroy all of these living pests is to rob them of their food and shelter. Decaying garbage in boxes or on the ground feeds and harbors all of them, hence the speedy collection and prompt destruction of garbage has become within the past year a sanitary necessity that cannot be postponed.

Antitoxin for Diphtheria.—It is estimated that 4,500 lives have been saved in this city during the last five years by the use of the antitoxin treatment in diphtheria cases, according to the

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Department of Health. This estimate is reached by comparing the diphtheria death-rate of the five years, 1891-5, before the antitoxin treatment was begun, with that of 1896-1900, computing the number of deaths that might have occurred in proportion to the population in the last period at the percentage rates of the first, and taking the difference between this number and the actual number of deaths. The actual saving of lives thus figured is 4,556, deaths to the number of 8,865 from diphtheria and all croup having been probable, and only 4,309 deaths having occurred. On the money basis of the legislative value of a life, $5,000, this saving represents the sum of $22,780,000, and for the year 1900 alone it represents $5,900,000. These figures may strike the average reader as incredible, but they are an understatement rather than an exaggeration. In the five years the city's antitoxin staff has treated 5,727 cases of diphtheria and croup with antitoxin, of which number only 369 died. The death-rate for the disease in the city in 1891-5 was 11.23 per 10,000 of population, and in 1896-1900 it was 5.45. Against an annual average of 1,482 deaths in the first term, the average in the second is 862.

New Skiagraphic Diagnosis for Renal and Ureteral Surgery.—Dr. G. Kolischer and Dr. L. E. Schmidt presented a paper on this subject before a recent meeting of the Chicago Medical Society. The method consists in passing metal instruments through the ureters to the kidneys and then skiagraphing the same while in position. Numerous skiagraphs were shown to give an insight into the character of the work. In order to find out whether or not injuries to the ureters, pelvis or kidneys could arise, they were obliged to find sounds that were adapted to their purposes. Repeated catheterization of the ureters on cadavers showed complete absence of any traumatism. In order to show the possibilities in this line of investigation the following points were enumerated where this method will oftentimes give the desired information: It will give the exact location of the pelvis of the kidney; the exact course of the ureters; the localization of mechanical obstruction in the ureters; the differential diagnosis of gall-bladder and kidney-stone by the manner in which the sound points; and the scratch marks on the sound will also give information as regards stone.

GENERAL.

Beer Scare and Drinking.—The scare in England about arsenic in beer has done more for the cause of sobriety in a week or two than the combined efforts of all the temperance societies in a number of years.

Land for a Plainfield Hospital.—A plot of land, with 500 feet frontage on Thornton avenue, Plainfield, N. J., valued at $10,000, was offered last week as a gift to the Board of Governors of Muhlenberg Hospital as a site for the new hospital building, by James E. Martin, of Plainfield.

Medical Society of Missouri Valley.—This Society will meet at Omaha, March 21st. The following program is announced: J. W. Cokenower, M.D., of Des Moines, Ia., "New Rectum and Sigmoid in Colostomy;" E. A. King, M.D., of Blockton, Ia., "Chorea;" H. D. Jerowitz, M.D., of Kansas City, Mo., "Scarlet Fever;" A. B. Somers, M.D., of Omaha, "Ante-Partum Diagnosis;" J. Cameron Anderson, M.D., of Omaha, "Vesico-Vaginal Fistula;" C. H. Wallace, M.D., of St. Joseph, "Primary Perineorrhaphy;" J. W. Kime, M.D., of Fort Dodge, Ia., "Treatment of Tuberculosis;" Daniel Morton, M.D., of St. Joseph, subject not announced; A. L. Wright, M.D., of Carroll, Ia., "Mastoid Infection;" O. B. Campbell, M.D., of St. Joseph, "Intestinal Obstruction;" J. M. Aikin, M.D., of Omaha, "Facial Paralysis;" Millard Langfeld, M.D., of Omaha, "Compensation and Failure of Compensation in Heart Disease;" M. F. Weymann, M.D., of St. Joseph, "Chalazial Tumors;" Inez C. Philbrick, M.D., of Lincoln, "Association in Women of Pelvic and Hepatic Disease;" Emma Warner Demaree, M.D., of Roca, "A Case of Sporadic Cretinism;" D. C. Bryant, M.D., of Omaha, "The Pathological Importance of the Accessory Sinuses of the Nose;" J. E. Summers, Jr., M.D., of Omaha, "Clean Surgery versus Mutilating and Unscientific Obstetric Procedures as Practiced Upon the Viable Unborn Infant;" Chas. C. Allison, M.D., of Omaha, "Some Phases of Puerperal Sepsis;" H. Gifford, M.D., of Omaha, "Another Case of Methyl-Alcohol Poisoning;" H. P. Hamilton, M.D., of Omaha, "A Plastic Operation for Pruritis Ani."

Medical Inquiry on Social Evil.—At the New York County Society Dr. Prince Morrow read a paper on the medical aspects of the social evil. Dr. Morrow said that the attempt to regulate vice in European cities by a system of fees and licenses had not been successful. In Paris, he said, the number of licensed houses had decreased from 250 to 40, while the vice itself had spread and increased.

William H. Baldwin, Jr., chairman of the Committee of Fifteen, said that the idea of eradicating the evil altogether was Utopian and that, in his opinion, a little of hell, within certain restrictions, was to be preferred to a great deal of hell. He was speaking only for himself and not for the committee.

Dr. Frederic R. Sturgis advocated the licensing and regulating of the social evil, and cited the experiment of St. Louis.

James B. Reynolds said that the women in this city were already regulated by the police and that the methods for collecting the tax on vice were much better than those of the Paris police.

The members of the Academy voted to investigate the social evil in this city, and authorized their President, Dr. George B. Fowler, to appoint a committee of seven to do it.

Obituary.—Dr. I. N. Jones, one of the best-known Cincinnati physicians, died of pneumonia in that city on Thursday night last. He was the

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Cincinnati physician of the Actors' Fund of America. A widow and two sons survive him.

Dr. Pierce B. Fagin, a pioneer of the State of California, died February 21st. Dr. Fagin laid out the site of the city of Des Moines, Ia., in 1846. He was eighty-two years old.

Dr. S. A. Mercer Given, manager of the Burn Brae Sanitarium at Clifton, Delaware County, died February 23d. Dr. Given assumed the management of the sanitarium, which was founded by his father, soon after his graduation from the University of Pennsylvania in 1887.

Dr. Abbott Hodgman died February 26th at his home, 141 East Thirty-eighth Street, of a complication of diseases. He was born at West Townsend, Mass., on November 15, 1832, and studied at Dartmouth and the New York University Medical Colleges. He was once a staff doctor on Blackwell's Island. Dr. Hodgman had charge of the medical department of the city prisons from 1861 to 1868, and he was a member of the commission appointed in 1884 to investigate the condition of tenement houses. He was a trustee of the Metropolitan Museum of Art and of the New York Savings Bank and a member of the New England Society, the American Medical Association, the New York Academy of Medicine and the New York State Medical Association.

CORRESPONDENCE

OUR LONDON LETTER.

[From Our Special Correspondent.]

LONDON, February 16, 1901.

THE PLAGUE AT HULL—PLAGUE-STRICKEN RATS AT BRISTOL—THE MEDICAL HISTORY OF THE LATE QUEEN—HER MEDICAL ADVISERS—THE PLAGUE AT SYDNEY—GOOD RESULTS FROM HAFFKINE'S PROPHYLACTIC SERUM.

THE outbreak of plague at Hull on a steamer which arrived from Alexandria has increased since my description was written for your last letter, but fortunately the energetic precautions of the sanitary authorities have so far prevented any spread of the disease to the town. On January 14th the third and fourth cases were observed on the vessel and the patients were removed to hospital. Four more of the crew were isolated in the hospital. The vessel was removed from the dock to an appointed mooring station and underwent complete fumigation. The whole of the crew, the nursing staff of the hospital, and others who have been exposed to the infection have submitted to Haffkine's prophylactic treatment. The addresses of all persons associated in any way with the ship were obtained and these individuals were kept under daily observation. The vessel has been thoroughly disinfected. It appears that dead rats were discovered on the vessel when it left Alexandria.

Still another attempted invasion of the United Kingdom by plague has occurred at Bristol. A steamer arrived on January 21st from Smyrna with a cargo of grain. On January 22d it was reported to the Medical Officer of Health that six dead rats had been found in the grain and destroyed by fire. On another being found, it was sent to Dr. Klein for examination. Inoculations showed that the rats had died of plague. When this was discovered most of the cargo had been discharged. Every precaution was then taken. The vessel was kept in the floating harbor and thoroughly disinfected. So far no cases of plague have developed.

The following gossip in relation to what may be called the medical history of the late Queen, though in great part overlooked by the omnivorous press which now eagerly seizes every scrap of information in relation to her Majesty, appears to be quite authentic. Her Majesty's long life cannot altogether be explained by heredity, but was partly the result of careful living. Her mother, the Duchess of Kent, was a firm believer in the medical profession and had her daughter's health very carefully supervised. When the Queen came to the throne the rules laid down for her were carefully followed. Not until some years after her marriage were they relaxed. Later she suffered from indigestion and came under the care of Sir William Jenner, who was for more than thirty years her adviser. His counsels she obeyed with a fidelity remarkable in a woman of such strong and independent mind. Somehow the Queen at first disliked doctors and all the immense mental power of Jenner was required to overcome this feeling. He showed his tact when first called by telling his illustrious patient that he must with all due deference suggest that it would be mere waste of time for him to prescribe unless her Majesty made up her mind to implicity follow his instructions. Satisfied on this point he asked for several consultations on successive days and laid down rules of life which the Queen followed until her death. He insisted that she should take outdoor exercise, irrespective of weather, and should have not less than seven hours' sleep—eight if possible; that she should never sit in overheated rooms and that her diet should be as simple as the exigencies of her position permitted. Malt liquors and sweet and heavy wines were tabooed. Hence the Queen's favorite beverage was dry champagne, hock, moselle, and in later years old malt whisky and some effervescing water. When Jenner died her Majesty was greatly troubled, but she had at hand another physician, a Scotchman, Dr. James Reid, a pupil of Jenner's who was strongly recommended to the Queen by him. The Queen made Dr. Reid a baronet and showered other honors on him. He was always with the court whether at home or abroad, except for a brief autumn holiday. He married a maid of honor, the Hon. Susan Baring. He is now just over fifty and was resident physician to the Queen for thirty years. He is recognized as a "level-headed, shrewd, cautious and far-seeing man." He has no great faith in drugs, but believes more in hygiene. He is very reserved and there is one subject on which he has never been known to speak—

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the health of his royal patient. This reticence no doubt has helped to secure his advancement at court.

A voluminous report on the recent outbreak of bubonic plague in Sydney has been issued by Dr. J. A. Thompson, president of the Board of Health of New South Wales. Between January 19 and August 9, 1900, 303 persons were attacked. The metropolitan area, which has an estimated population of 436,000, including about 4,000 Chinese and a few colored people, alone was affected. Two hundred and ninety-three whites and 10 Chinese were attacked. Four times as many males as females were affected. More than half the cases occurred between the ages of fifteen and thirty-five. There were 103 deaths. Haffkine's prophylactic serum was injected into 10,700 people, of whom 13 developed the plague, but recovered after mild attacks. The Yersin-Roux serum became available on May 13th, but its use did not interfere with the natural course of the epidemic. The following conclusions are drawn as to the mode of infection: (1) The disease was not directly communicated from the sick to the well; (2) it was not communicated—in any important degree, at all events—by mediate channels, such as clothes, household goods, merchandise or excreta; (3) the infection was attached to localities and spread to adjacent ones; (4) it also spread in a fashion which betokened the possibility of transport from a distant focus; (5) in an infected locality cases occurred irregularly in the buildings and showed no special proneness to occur in adjoining houses; (6) when one case occurred amongst the inhabitants of a building, secondary cases rarely followed. Irregularity of incidence on houses was thus accompanied by irregularity of incidence on the inmates; (7) an epizootic disease among rats preceded the first case in man; (8) this epizootic disease was plague; (9) the area over which the epizootic extended was practically coextensive with that in which cases of plague were observed; (10) the epidemic was caused by communication of the disease from rats. As to prevention, Dr. Thompson says: "The best protection against plague lies in sanitary laws persistently and faithfully executed by local authorities during the absence of the disease, and no other general scheme of defence is practicable." However, he lays great stress on the securing of immunity from rats—by preventing their landing and by building houses in such a way and keeping them in such a cleanly condition as to make it difficult for rats to enter or to live if they do enter.

House Physicians Get Out.—After a protracted meeting of the medical staff of the Orange Memorial Hospital and the Board of Managers, Februay 27th, the staff accepted the resignation of Dr. Frank H. Glazebrook and Dr. Henry P. Merrill, Jr., the two house physicians. The house physicians offered their resignations on Saturday, giving as a reason that they could not longer endure the dictation of the superintendent, Mrs. Mary J. Chambers.

TRANSACTIONS OF FOREIGN SOCIETIES.

French.

CANCER AND THE BLOOD—TYPHOID PERFORATION—PENETRATING ABDOMINAL WOUNDS—CRANIECTOMY AND MENINGITIS—RADIOGRAPHY AND PROJECTILES IN THE FACE AND CRANIUM—APPENDICITIS—SPLENIC RUPTURE — PNEUMOTHORAX—CEPHALORACHIDEAN FLUID—POTT'S DISEASE OF THE SPINE.

TUFFIER, at the Société de Chirurgie de Paris, January 9, 1901, said that examination of the blood in doubtful gastric disease is often of the greatest diagnostic importance; sometimes the diagnosis of cancer can be confirmed in the presence of other symptoms and sometimes suggested in their absence. Leucocytosis usually accompanies all forms of infections and is therefore apt to be present in gastric cancer, but unfortunately ulcer of the stomach, if complicated with some infection, will also often give this sign. He cited one case, in which the patient had presented many of the signs of a suppurative perinephritis for some time. A hemodiagnosis was a confirmation of this view, notwithstanding the fact that the temperature had declined. At the operation a large abscess was evacuated at the suspected site. He had also had two other patients in whom a hemodiagnosis was exceedingly valuable in ruling out suspected and in recognizing the actual disease. Hartmann said in the discussion that not only is a quantitative but also a qualitative leucocyte count necessary.

LOISON, in discussing the subject of perforations during the course of enteric fever, said that the diagnosis rests on three facts, pain usually localized, complained of by the victim, a marked change in the temperature and a failing of the force of the pulse. He has in reviewing literature collected ninety records of surgical operation for the perforation. Seventy-four patients had perished. Of the sixteen recoveries, half occurred in the second or third week and the other half at a later period. Twelve of the interventions were done at the exact moment of perforation, the symptoms of which are exactly described. Ten of the operations were after an interval of about twenty-four hours. The results though not yet very good demonstrate that the treatment of intestinal perforation, at the time or later, is surgical. Hartmann, in the discussion, said that the more recent statistics in America were very hopeful of this condition as surgically treated and further showed that the more early and precise the diagnosis the better the prospect of success.

ROCHARD, at the meeting of January 16th, narrated the histories of three cases of penetrating wound of the abdomen in behalf of Anoray. Three others of the six of this author were published in full by him. The fourth was a fatal revolver wound in which surgical intervention had been undertaken too late. The fifth was a knife thrust into the abdomen. The laparotomy which was done at once showed only slight hemorrhage from the epiploon. Prompt and

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complete recovery followed. The last case was also a stab, but laterally through the eighth intercostal space through the thorax into the abdomen. A lateral laparotomy showed a penetrating wound of the diaphragm filled with a small hernia of epiploon, another wound in the transverse colon. Both were sutured and recovery followed. In these cases Anoray contented himself with attention to the immediate field and did not eventrate the intestines. It appears that such a step should always be taken as a precaution. He also had some difficulty in suturing the diaphragmatic wound. Rochard said that the transpleural route is by all means best, because the pneumothorax which results is not troublesome. In dogs he has repeatedly demonstrated that it rapidly disappears.

POIRIER presented an interesting case of fracture of the base of the skull complicated by late meningo-encephalitis and cured by wide craniectomy. While intoxicated the patient, a workingman, fell so that the right side of his head struck the ground. He arose and was able to walk home, into his house, but on the stairs reeled and had very severe hemorrhage from his nose and mouth, and loss of consciousness. He was taken to the hospital where three days later at evening an ecchymosis of the right conjunctiva was noted and later of the lids of that side. On the fifth day he thought himself able to return to work, but that afternoon he had to give up and return home on account of an unendurable headache. In the hospital it was suspected that a meningo-encephalitis had begun. Lumbar puncture obtained a turbid, slightly purulent and hemorrhagic fluid confirming the diagnosis. Operation upon the cranial vault was at once determined upon and on each side, with mallet and chisel, trap-doors about five by four centimeters were cut. When the dura was incised much fluid analogous to that from the spinal canal was obtained and other evidences of inflammation discovered. Good toilette of the field was made and efficient drainage established, but the precise site of the fracture was not seen. An entirely satisfactory recovery followed. The bacteriological examination of the fluid obtained in the lumbar puncture showed staphylococcus pyogenes aureus.

TUFFIER in behalf of Mauclaire reported two cases of projectiles located in the head, especially about the face and cranial cavity. The apparatus of Contremoulin was employed. In the first patient the penetration was beneath the middle of the zygomatic arch and the bullet was located in and extracted from the orbital cavity. In the second patient the bullet had entered in the left temporal fossa and was recovered in that of the other side, where the radiograph plainly showed it to be. Tuffier himself has seven times succeeded easily with the apparatus of Contremoulin. Twice the bullets were extracranial and five times intracranial. Up to the present thirty-one cases are recorded in which it has been used. Twenty-eight were absolutely and three were partly correct. The field of use for this instrument is certainly wide.

Alluding to this subject MIGNOW, at the meeting of January 23d, gave the history of a man who three years before treatment had been shot with a pistol in the right side of the head. Since the wound irregular cerebral symptoms had supervened. Radioscopy located the ball exactly and without trouble, it was removed and complete cure followed. The diagnostic value of radiography in such cases is immense.

POIRIER, in defence of the dictum that in the treatment of acute appendicitis it is necessary to operate just as soon as the diagnosis is established, cited his own and his assistants' statistics since 1899, a total of sixty-four cases. That year the number was twenty-six. Of these seven were in the interval, all recovered, and nineteen were in the attack with two deaths, although eight had a general peritonitis. In 1900 in hospital practice he had one interval and nineteen acme operations, without a death. In private practice he had eighteen operations, fourteen recoveries. At least some of the fatalities were ascribed to the disadvantages incident upon work in houses as compared with that in hospitals. Although capable of improvement, this record supports his contention.

LOISON recited the following facts about a case of rupture of the spleen successfully treated by him. August 3, 1898, the man was kicked by a horse in the left side and soon afterward showed signs of visceral damage. Several of the ribs were broken and there were signs of a localized peritonitis pointing, through the subjective symptoms, to lesions of the colon and stomach. At the laparotomy these viscera with the spleen were exposed. Only the spleen was ruptured as shown by the active evacuation of old blood walled off by adhesions. The rent in the viscus did not seem to necessitate splenectomy, so the blood-flow was checked by tamponade. The ultimate outcome was most satisfactory. The patient was seen two years later (in July, 1900) and found to be in excellent health and without symptoms or signs pointing to the splenic damage.

GAILLIARD, at the Société Médicale des Hopitaux, January 11, 1900, stated that he had recently had a case of fetid pneumothorax which was cured by simple pleurotomy. The twenty-five-year-old woman, without any morbid history, a few days after childbirth was seized with violent pain in the side, cough, dyspnea and bloody expectoration and fetid breath and sputum. At the hospital it was found that she presented all the signs of a right pneumothorax localized on the postero-external aspect of the chest. Exploratory puncture obtained a small amount of hemorrhagic, fetid sero-pus, which contained no pneumococci. For a few days the course of the disease went well, when the onset of urgent signs made a surgical intervention advisable. A simple pleurotomy evacuated a large amount of foul gas, but hardly any fluid. The

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urgent symptoms then disappeared, but the signs of the pneumothorax persisted with little change, although the subjective manifestations also improved. Nevertheless the general relief continued and after two months the woman returned to her vocation with only a few functional derangements, otherwise able to follow her duties.

CHAUFFARD in the discussion said that the one point not clear in the case was the source of the fetid pus. He had an analogous case in which at the operation no source of the pus could be seen and at the autopsy it was found to be an interlobular encysted empyema. Very likely a similar localized focus had been the cause of the trouble here.

MONOD, at the meeting of January 18, 1901, discussed the cellular elements found in the cephalorachidean fluid. Widal, Sicard and Ravout have recently explained the varieties they found in various inflammatory conditions of the meninges, especially the tuberculous forms. Monod had selected patients afflicted with tabes dorsalis and general paralysis. Upon centrifuging the products of lumbar puncture he found various varieties of cellular elements among which the lymphocyte predominated. Of such cells he had seen forty to fifty in the field of an oil immersion. Except in cases of acute and chronic inflammation he had never seen such cells before and he offered the opinion that the meninges react to disease in practically a constant manner of which these cells are a sign. Widal in the discussion said that he, too, with Sicard, had recently been examining the fluid taken from tabetics and paralytics. In such he had found great hordes of lymphocytes mingled with uninuclear cells. Such he had not yet seen in cases of chronic meningitis. For such researches the technic comprises the withdrawal by lumbar puncture of four cubic centimeters of the fluid, which are received at once into the tube and centrifuged at high speed. The supernatant fluid is then gradually decanted, leaving the deposit in as little fluid as possible. This is then taken up in capillary tubes and transferred to cover-slips where after careful spreading it is stained. The quantity of leucocytes may permit us to distinguish between tuberculous meningitis and acute cephalomeningitis, leptomeningitis and the majority of acute maladies which affect the membranes. Similarly the number of these lymphocytes in the fluid during the course of various organic nervous diseases seem to show only the involvement of the meninges and may, therefore, be of clinical advantage in diagnosing such invasion. Sicard said that he had examined the cerebrospinal fluid in four cases of meningomyelitis, three of syphilitic and one of unknown origin. In all were found numerous cellular elements whose characters were mainly mononuclear. These facts have the value of permitting the clinician during the life of the patient to examine into the condition of the meninges by such examinations.

TOUCHE said it is essential to recognize in Pott's disease of the spine whether or not there is compression of the nerve-roots, when the disease occurs with a transverse myelitis. The prognosis of the paralysis is the element depending upon such diagnosis. This point cannot be arrived at either at the onset of the disease nor at the advent of the paraplegia by any study of motor and sensory signs. With the decline of the symptoms, however, we may concern ourselves with some satisfaction with the typical or atypical affections of sensation about the proper root area. The best signs, however, are the retention of urine and the state of the reflexes. The reflexes in different individuals seem to depend upon whether or not a pachymeningitis has traveled along certain roots. Hence we can ascertain practically the site and degree to which the roots are involved; especially when the sensory disturbances of the root area are investigated.

RENDU in the discussion said that in at least a certain number of cases paraplegia in the course of a spondylitis may be due to an extramedullary and extraradicular lesion. Its origin may be a small amount of pus which has worked its way into the spinal canal and there set up pressure effects. If it disappears the signs of the pressure also vanish and the paraplegia improves.

SOCIETY PROCEEDINGS

HARVARD MEDICAL SOCIETY OF NEW YORK CITY.

Stated Meeting, Held January 5, 1901.

The President, John B. Walker, M.D., in the Chair.

Suppurative Appendicitis.—The paper of the evening on this subject was read by Dr. Ramon Guiteras. He said that as soon as the inflammation in the appendix exhibits a tendency to the formation of pus, the treatment of the disease is surgical, not medical. If the pain and tenderness are not severe, the temperature not high, and the pulse reasonably good, an ice-bag may be employed during the first twenty-four hours. If the temperature and pulse become more normal the attack may be considered over for the time being. If on the third or fourth day of an attack there is still disturbance of temperature and pulse, the probability is that pus has been formed. By this time the spasmodically-contracted muscles have become tired and a lump may be felt in the right iliac region. At times the tumor may be felt at the first visit. The size of this tumor bears, as a rule, no relation to the length of time since the last attack, nor always to the severity of the symptoms in that attack. It may have existed for months and yet be no larger than a lemon, or, it may have existed only for weeks and be as

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large as an adult head. If pus has formed there is always a septic temperature and the pulse is disturbed. When pus has formed, operation affords the only means of relief. At times small amounts of pus may be absorbed. However, the general rule is that, once pus has formed, rupture will inevitably take place sooner or later into the peritoneal cavity, or some of the hollow viscera, unless operation is done. The disappearance of the tumor is nearly always a bad sign. For the moment, the patient may have a sense of relief from the feeling of discomfort in the lower right abdomen, but tympanites soon follows and general peritonitis closes the scene. An appendiceal abscess may point on the skin and Nature cure the patient by this means. It is usually easier, however, for the pus to force its way into the peritoneal cavity. In one case, seen some years ago, drainage of a very large abscess was difficult, because the collection of pus extended down around the rectum. Septic pneumonia developed and the patient died. It seems probable that in these cases the abscess should be opened through the rectum, as this furnishes much better opportunity for thorough drainage.

Removal of Appendix.—Whenever it is possible the appendix should be removed at the time of operation. Especially is this true when there have been several recurring attacks of appendicitis. If the removal of the appendix requires considerable manipulation and the breaking up of many adhesions, it seems better merely to open the abscess at the time of the acute attack and to leave the removal of the appendix until a later operation can be done. This is, of course, a disputed question. There are good operators who insist that the appendix can always be found at the time of the primary operation and that its removal guarantees against recurrences. To leave the appendix, they say, invites recurrence. At times, when the appendicular abscess is small, there seems to be no reason to doubt that pus is absorbed. In some cases, in which there has been an acute attack with some septic temperature and pulse indicating the presence of pus and the acute symptoms have subsided under ordinary medical treatment, a later operation may show the presence of very little pus, practically none. In a recent case Dr. Guiteras found just a drop of greyish pus in a patient whose symptoms indicated some time before the existence of a considerable septic focus. The size of the tumor is not always an indication of the amount of pus. Its hardness may at times give rise to the suspicion of the presence of a sarcoma. In a recent case in which sarcoma had been diagnosed by others who saw the case previously, abnormalities of temperature seemed to point to a purulent condition. When the tumor was cut down upon dense tissues were found surrounding a small quantity of pus, not more than two or three drams.

Fallibility of McBurney's Point.—In the discussion Dr. Egbert H. Grandin said that recent experience has shown him that it seems to be a mistake to lay so much stress on the diagnostic value of McBurney's point. Localized pain and tenderness at that point often appear only at an advanced stage of the disease. If the general practitioner waits until these symptoms are present, and this he has been taught to do, his patient will often come to the surgeon too late. McBurney's point is of value, but it is not pathognomonic and tenderness in that spot does not exclude the existence of certain other pathological conditions. In two recent cases of extrauterine pregnancy, under Dr. Grandin's care, there was distinct tenderness over McBurney's point. As a matter of fact, pain at this point is rather uncommon in an early stage of appendicitis. Pain occurs first at and around the umbilicus. It may often be referred to up under the liver, and therefore there is a suspicion of the presence of gall-stones. If the abscess exists behind the cecum the pain may be much farther back. When the appendix points downward from the cecum the pain may be much lower than McBurney's point. Appendicular abscess between the uterus and the bladder may give symptoms that simulate a number of gynecological conditions and the pain will be referred to the pelvic region. It must be remembered that appendicular abscesses lying close to the vagina may be readily opened and thoroughly drained through this canal.

Primary Operation Technic.—The less done beyond draining and washing out a large appendicular abscess, the better for the patient. The possibilities for harm; if adhesions are broken down and pus gains admittance to the general peritoneal cavity, can scarcely be overestimated. During the course of the drainage the appendix will often slough off and come away with the pus. This is as effectual as if it were painfully searched for and picked out of the adhesions in which it so often lies buried. When these adhesions are thick and considerable manipulations are needed to free the appendix, there is risk of rupturing the wall—a frequently-fatal accident. In many cases counter-drainage into the loin is extremely important. In women it is often feasible to make the counter-drainage through the vagina.

Removal of Appendix.—Dr. William B. Coley said that there is great difference of opinion, among those having the largest experience in the matter, as to whether the appendix should always be removed at the primary operation. Dr. John Deaver says that the appendix should always be removed. This is certainly good surgery in his skilful hands. But if followed as a general rule, the advice would be productive of many fatal results. If after a moderate search the appendix can be found, its removal is advisable. The patient's condition is of importance in this matter. If he is able to stand manipulation well, a longer search may be made. There is no doubt that the appendix

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often sloughs off and comes away during the drainage. It does not always do this, however. Dr. Coley has seen a secondary appendicitis in a case in which the patient had been assured that the appendix had sloughed off and come away during a preceding surgical treatment for appendicitis. A good many patients have recurrences if the appendix is left. Hernia often follows the use of free drainage. In such patients secondary operation should be advised for the removal of the appendix and also for the radical cure of the hernia.

Iodine-Test for Pus.—Dr. Theodore Dunham said that his experience in the use of iodine for the staining of the white blood-cells seems to show that this test is of some value in deciding the presence or absence of pus. The leucocytosis in a case of appendicitis, if high, often makes the presence of pus absolutely certain. When, however, the leucocytosis is not sufficiently high to make assured differentiation between a purulent and a non-purulent condition, the iodine reaction may serve to confirm the diagnosis of the presence of pus. In a case of suspected abscess of the liver in a boy, Dr. Dunham was encouraged to operate because of the presence of the iodine reaction. Up to this the patient had been treated for typhoid fever. The liver was found to be swollen and an incision into it gave exit to a quantity of pus, after which the patient made a prompt recovery.

Leucocytosis in Appendicitis.—Dr. Potter said that a review of eighty cases of chronic appendicitis examined during the interval showed that while leucocytosis as a test for the presence of pus is of some value, it is not finally significative. Like every other single symptom—pain, fever, pulse—it is valuable confirmatory sign, but gives no absolute assurance. As one of a set of symptoms it adds considerably to the surgeon's assurance in a given case, but is not pathognonomic.

Dr. E. K. Dunham said that he was very much interested in the report of certain cases in which gas, as well as pus, was present. The bacillus ærogenes capsulatus is an almost constant inhabitant of the intestinal tract. It is from here, of course, that the bacteria find their way into the appendix, and it would be interesting to know how often these bacteria occur in the abscess and how often gas occurs in connection with appendiceal pus.

Dr. Edward M. Foote said that a recent remark from our friends the osteopaths with regard to the lecocytosis of appendicitis seemed of special interest, because of its supreme assumption. The osteopath by manipulation sets the spleen in vibration. This is claimed to cause the outwandering of a great many leucocytes into the circulation, and thus cures the infective process which is at work—according to the osteopath.

Value of McBurney's Sign.—Dr. John B. Walker said that McBurney's sign is not of absolute, but of relative diagnostic value in cases of appendicitis. When a collection of pus is retro-cecal then tenderness is not apt to exist at McBurney's point at all. The pain and tenderness are apt to be much more diffuse and there is usually very little tenderness in the center of the patient's abdomen. In these cases, too, the pulse and temperature are apt not to be so high as in other cases in which the abscess wall is so situated with regard to the general peritoneal cavity that there is opportunity for the absorption of more purulent toxins. There is no doubt that extra-uterine pregnancy simulates appendicitis by causing pain and tenderness in the region near McBurney's point. Abscess of the ovary may also produce pain and tenderness here as in a recent case under Dr. Walker's care. There are certain cases of appendicitis in which the pain occurs first in the epigastrium. At the beginning of the attack this is not very intense, but it may become very severe. In a recent case it was thought that rupture of the stomach or duodenum had taken place. Operation, however, revealed a gangrenous appendicitis. McBurney's symptom has its value, but must not be considered either pathognomonic or exclusive in its significance.

Dr. Reynold Wilcox said that the diagnostic significance of McBurney's sign is much overrated. In many cases it is useless and worse than useless. Its absence tempts the general practitioner to delay his diagnosis of appendicitis until the case has perhaps gone beyond the stage in which surgical intervention would be of benefit. In general it is a criterion that can not be depended on and of which too much has been made by text books and lecturers.

The True McBurney Sign.—Dr. W. B. Coley said it must be remembered that the symptom to which Dr. McBurney called attention is not pain but tenderness at a point midway between the umbilicus and the anterior superior spine. This sign is of very positive value as an element in diagnosis. It must not be considered the sole pathognomonic symptom, nor is its presence a sure indication that the underlying pathological condition is appendicitis. Taken in connection with other symptoms, however, it is a very valuable diagnostic factor. Tubal and ovarian disease especially may simulate the tenderness which occurs at McBurney's point so characteristically in the majority of appendix cases. As a rule, however, it is not difficult to differentiate these conditions from appendicitis at times when surgical intervention is not insistently called for and at other times the indications for surgical procedure retains its value.

Difficulties of Technic.—Dr. Ramon Guiteras said that at times considerable hemorrhage occurs from the walls of the incision made for opening an appendiceal abscess. This hemorrage comes from branches of the circumflex iliac artery which occasionally runs across the field of operation. The ends of the cut artery

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should be caught as soon as its presence is noted and the ends either twisted, or, if necessary, a ligature applied. Extensive manipulation for the purpose of securing the appendix may easily lead to the opening of the general peritoneal cavity. Therefore it scarcely seems advisable, especially in cases of extensive abscess, or when the appendix can not readily be found.

Such a search involves much more risk for the patient than the presence of his appendix. There is no doubt that the appendix often sloughs away, for portions of it are not infrequently found in the drainage from the abscess. The direction in which the appendix points depents on the length and character of its mesenteric attachments. In perfectly normal individuals the appendix may point in any direction. As a general rule, however, it points toward the umbilicus and in all these cases ulceration in its neighborhood will cause pain and tenderness at McBurney's point.

Difficulties of Drainage.—In certain cases the cecum becomes pressed up beneath the incision and so prevents proper drainage. In these cases means must be taken to keep the cecum out of the way. If the cecum should become distended with gas, even to a slight extent, as happens not infrequently during convalescence from appendicitis operations, it will usually close up the drainage canal. It is advisable in some of these cases to insert a Mercier catheter in order to maintain drainage.

Dr. Lincoln reported a case of appendicitis in which the pain and tenderness and the tendency to abscess formation were found to be in the region of the kidney on the right side. This caused serious doubt as to the diagnosis. At the operation it was found that the cecum occupied a position just over the kidney as it does in fetal life. It was evident that by some error of development the cecum had never descended to its proper position, but maintained its original location.

Stated Meeting. Held January 25. 1901.

The President, John B. Walker, M.D., in the Chair.

Intestinal Plug.—Dr. Edward M. Foote presented an intestinal plug meant to be worn by patients who have an artificial anus. It consists of a solid plug of gutta-percha, about two inches and a half long and about three-fourths of an inch in diameter, surrounded by a rubber cushion in the shape of a ring containing air. This can be worn without any inconvenience. Its insertion in the rubber ring makes it reasonably capable of retaining all fecal material unless this be of very watery consistency, while at the same time it yields to every motion of the patient and can be worn without discomfort. It may be removed every four hours or so and the artificial anus thoroughly cleansed. Dr. Foote also exhibited a sigmoidoscope and a small electric lamp which could be used for its illumination. The electric battery for this lamp can easily be carried in the pocket. This enables one to make high examinations of the rectum and even of the beginning of the sigmoid at a patient's home without any necessity for transporting very cumbersome and expensive apparatus.

Obstruction from Enterolith.—Dr. Howard Lilienthal reported the following case: The patient, an old lady sixty-four years of age, was taken with severe abdominal pains after a Thanksgiving dinner. The pain was general in character and could not be localized distinctly. It grew worse and uncontrollable vomiting finally set in. There was more resistance to palpation and more tenderness in the right iliac region. Considerable tympanites developed and an operation seemed absolutely indicated. Exploratory laparotomy was advised. As soon as the abdominal muscles became relaxed a tumor in the region of the appendix could be made out. Appendicitis had been suspected before and now this diagnosis seemed confirmed. An incision was made as for the removal of the appendix. Adhesions were found to exist between the loops of the intestine and the cecum in this region and considerable free peritoneal fluid escaped through the incision. The cecum itself was found unaffected by any pathological condition in it, but the ileum not very far from its anastomosis with the large intestine contained a hard lump. This lump caused occlusion of the intestine so completely that below it the ileum was absolutely flaccid while above the intestine was immensely distended. An incision was made in the wall of the ileum and a stone over an inch in diameter was removed. Rapid recovery took place after the operation and no sequelæ of the condition have been noted.

Origin of Enterolith.—As is usual in the case of enteroliths this one seems to have been originally a gall-stone. The most careful investigation into the woman's history, however, fails to reveal any evidence of pain or fever, or jaundice, or intestinal disturbance, or even discomfort in the liver region, any time during life. This stone still bears on it a certain number of facets which show that it was not the only stone in the gall-bladder at the time that it was passed to the intestine. The passage of stones of such large size from the gall-bladder to the intestine without any symptoms remains one of the mysteries of intestinal pathology.

Resection of Epididymus.—With the idea of relieving a condition of sterility which had existed for some time, Dr. Lilienthal did a resection of the vas deferens and a transplantation from their point of origin to another part of the testicle. The patient was a man of forty who was normally fertile up to a year or two ago. Examination showed the presence of a series of nodules in the epididymus. These were considered to be tuberculous in origin. Seminal fluid

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expressed from the seminal vesicles contained no spermatazoa. Samples of seminal fluid from the condom also showed the absence of zoosperms. With the idea of relieving the condition by an experimental operation, the vas deferens was opened and found to be perfectly free. A filiform could be passed into the seminal vesicles. An incision made into the globus minor of the epididymus with the expression of some fluid for microscopic examination seemed to show that there were no spermatazoa in this part of the genital apparatus. Some were found, however, to exist in the globus major. The vas deferens was then split and fastened by stitches to an incised portion of the globus major. The patient was able to leave the hospital in two weeks. So far there has been no opportunity of judging of his fertility. Spermatazoa have not been found in the seminal fluid. This is the first time that such an operation has been done, though its performance was suggested in White & Martin's Text Book on Venereal Diseases.

Gonorrheal Sterility.—Dr. Follen Cabot said that Dr. Lilienthal's operation opens up a vista of hope for gonorrheal patients who have suffered from double epididymitis. As is well known the inflammatory exudate in these cases completely closes the seminal ducts and as a rule the closure is permanent. This makes the patient absolutely sterile. As the patients are usually young men a condemnation to hopeless sterility through life makes an extremely sad condition. Therefore the possibility of relieving the sterility by the transplantation of the vas deferens opens up a new and very promising operative field in genito-urinary surgery. There seems no good reason why the operation should not be successful and Dr. Lilienthal's case will certainly be followed with a great deal of interest by genito-urinary surgeons throughout the country.

Torticollis Simulating Vertebral Dislocation.—Dr. Royal Whitman described a case which had recently been shown at one of the surgical societies as presenting a fracture or dislocation of the atlas or axis. The patient, a young man, was struck very severely on the jaw by a piece of wood in the hands of a drunken man. The resultant injury healed without much delay and the patient seemed to have completely recovered. Some weeks afterward a queer projection of bone was noticed at the back of the neck and a marked deformity of the head and neck resulted. It was concluded that a fracture of some of the cervical vertebræ existed An X-ray photograph was taken and, while a fracture of the vertebræ could not be demonstrated, some disturbance of the relations of the atlas to the axis was found to exist. The condition was accompanied by intense muscular spasm which did not follow the accident immediately, but first began to develop more than a week later. The case proved to be one of simple torticollis in which the spasm of the muscles of the back of the neck caused the disturbance of the bony relations and the projection which simulated fracture or dislocation.

Orthopedic Treatment.—The patient was fitted with a jury-mast and the deformity was at once lessened. In a short time the pain also was relieved. It is not usually realized that severe torticollis may give rise to the deformity that occurred in this case. It is only when parts of the bones are emphasized by displacement due to spasmodic muscular action that it is realized how large the cervical vertebræ really are. These cases have become familiar to orthopedists in recent years, though they are still often sent to dispensaries or to specialists by the general practitioner with the idea that some serious pathological condition exists in the bones at the back of the neck. It is interesting to note that in this case a goiter has begun to develop. The spasm of the muscles forced the chin down upon the chest, thus interfering with the circulation to the thyroid gland and very possibly causing irritation to the tissue-element within the gland.

Spinal Cocainization in Selected Cases.—Dr. Gibson said that he had recently had a case in which the production of general anesthesia by the ordinary means seemed especially contra-indicated. The patient was suffering from diabetic gangrene and amputation at the thigh was required for the condition. He was an elderly man with seriously-diseased kidneys and arterio-sclerotic arteries. In general he was in as unsuitable a condition for anesthesia and operation as Dr. Gibson had ever seen. One-fifth of a grain of cocaine in a two-per-cent. solution was injected into the spinal canal. Absolute anesthesia resulted almost immediately and lasted, according to observations made, an hour and a half. The operation was terminated absolutely without pain in about half an hour. There was no nausea or head symptoms and no toxic reaction of any kind. The patient was given thirty grains of bromide, three hours before the operation to quiet restlessness and $^1/_{150}$ of a grain of hyoscin at the time of the operation. He left the hospital two weeks later with the stump firmly healed. One single rise of temperature occurred during the convalescence and this was due to a sore throat. This is one of the cases that one can not help but feel would surely have been "wiped out" by general anesthesia.

Favorable Experience.—Dr. Green said that in a recent case he had seen two injections of one-third of a grain each made into the spinal canal in order to produce anesthesia. The first injection produced anesthesia only to the knee. The second gave anesthesia well up to the thorax. In this case a fistula extending well up into the rectum was thoroughly opened. The patient was found to be suffering also from hemorrhoids and these were removed by the clamp and cautery. The operations lasted more than an hour altogether and good anesthesia was maintained during the whole time. Fourteen cases have been operated on under anesthesia by spinal cocainization in the City Hospital. There

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has not been a single bad result of any kind. A number of operators are persuaded that in certain cases operation would surely have proved fatal had it been attempted under general anesthesia. Spinal cocainization seems destined to take its place as a distinct adjuvant to surgery in certain difficult cases in which general anesthesia is contra-indicated.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, Held February 7, 1901.

The President, Robert F. Weir, M.D., in the Chair.

Bust of Dr. Horace Green.—A bust of the late Dr. Horace Green made under the direction of Dr. Green's family, was presented to the Academy by Dr. D. B. St. John Roosa. Dr. Roosa said in part: The community at large is hardly aware of the debt of gratitude which they owe the physician. When, some time ago, a set of judges was picked out to decide the names which should be inscribed in the Hall of Fame that is now being built on one of the hills around New York, not one doctor was selected for a place on the Committee. The first fifty names that are to be inscribed on this roll of fame have been selected and there is not a single physician among them. Is it possible that the name of Ephraim McDowell, whose pioneer work in gynecology saved thousands of lives and untold human suffering, does not deserve a place on a roll of America's famous men? Is Marion Sims to be left out? Shall Morton, who discovered anesthesia, made modern surgery possible, and saved such a world of suffering to mankind, have no place? Do such men sink in importance below the inventors of sewing machines, the writers of literary essays, or the makers of political speeches? If the public neglects, at least brother doctors must not forget. Fame is empty at best.

"Can storied urn, or animated bust
Back to its mansion call the fleeting breath?
Can honor's voice provoke the silent dust,
Or flattery soothe the dull, cold ear of death?"

Dr. Green conferred a great benefit on the medical profession by his ground-breaking work in laryngology. Before the invention of the laryngoscope he divined conditions that existed as the basis of symptoms, succeeded in getting hints of confirmation even with the imperfect examination methods of his day, and laid the basis of scientific laryngology. He was far ahead of his time and was naturally misunderstood. His work met with great opposition, and his methods were decried and even his motives impugned at a stormy meeting of the Academy. While a deeply sensitive man, kindly and sympathetic, he was yet one of the strong characters that goes on with appointed work despite opposition. It is but proper, therefore, that we should have this memorial of him and we owe a debt of gratitude to the friends who have presented it. May it long prove a source of inspiration to the members of the Academy and to the medical profession in New York in its noble work for the relief of disease and suffering.

The scientific business of the evening was then taken up—the meeting of the Section on Obstetrics and Gynecology before the Academy. This consisted of a symposium on the subject of "Conservative Operations upon the Uterine Appendages."

Present Status.—Dr. J. Riddle Goffe said that when modern gynecology began to be extensively practised about fifteen years ago, the desire to operate carried the gynecologists too far. They removed tissues that were scarcely at all diseased, and sometimes even normal sexual organs were sacrificed in the hope that this would afford relief from reflex symptoms. After this stage the pendulum swung the other way, and of late it has seemed that too little removal of diseased tissue has been undertaken. There is a true conservatism that takes the middle path between the two extremes. When organs are slightly diseased only portions of them should be removed; they may be freed from constricting adhesions, they may be replaced in their proper position, and in general the patient's condition can be vastly improved without radical operation.

Technic of Conservative Operation.—The simplest method of doing conservative work is to open the posterior vaginal fornix. In this way adhesions may be broken up and drainage secured that will relieve most symptoms. In acute cases relief is afforded almost at once. In chronic cases improvement results especially from the better circulation that comes with freedom from adhesions. After this, if further operation seems necessary, a portion of the ovary may be removed, or degenerated cysts in the body of the ovary may be punctured. Puncture may be done with a tenaculum, or with a knife or scissors. Some operators always prefer the actual cautery. Others think that when the cautery is used the extent of damage done to ovarian tissue cannot be properly gauged. If part of the ovary is hopelessly diseased, it may be removed. The inflammatory reaction that results from operation on the ovary proves a source of stimulation to the remainder of the organ and instead of doing harm does good.

Ovarian Circulation.—Professor Clark of the University of Pennsylvania recently showed that the circulation of the ovary is marvelously well arranged, so as to furnish nutrition even to the smallest healthy portion of the organ, whenever the blood-supply to other parts is cut off. The ovarian artery does not go directly to the ovary, but to the uterus. From it a series of arterial arches penetrate the substance of the ovary, anastamosing very freely with each other in every part of the organ. The removal of any one part, therefore, does not interfere with the circulation of other parts. Usually the part of the ovary that has to be removed is that farthest distant from the hilum. It is at the periphery that exsection is easiest and

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surest of success. After the exsection the cut portion is well covered with peritoneum and all rough surfaces are turned in so as to avoid the formation of adhesions. No matter where the incision is made the blood-supply will prove sufficient.

Tubal Operations.—There is for the tube the same arrangement of mesentery and of blood-supply as for the bowel. The blood-supply in the mesosalpinx can be quilted off without fear of producing gangrene in the portions of the tube that may be left. If it is the distal end of the tube that is affected it may be amputated. The tube should be slightly split at the cut end and then its mucous lining stitched to the peritoneum, as is done in circumcision, this keeps the tube open, makes the original caliber of the tube large at the end, and provides an oval opening into which the ova may find their way from the ovary and thus prevent absolute sterility. It is not always the distal end of the tube that is affected. Sometimes the purulent collection is walled off by adhesions in the uterine end of the tube, or is limited to the central portion. If the fimbriated end of the tube seems unaffected it may be preserved and inserted into the horn of the uterus, thus conserving fertility.

Transplantation of Ovary.—This operation has been undertaken with the idea of securing the preservation of the menstrual function and avoiding the shock of its sudden stoppage. This precocious menopause often proves a severe strain on the nervous system. The explanation of the fact that menstruation sometimes continues after a double ovariotomy seems to be that some small portion of the ovarian tissue has been left and that this suffices to produce the nervous reflexes that originate the menstrual flow. This explanation seems much more probable than that of the existence of a problematic third ovary. Ovarian tissue when transplanted to another site often recovers its circulation and produces the usual reflex of the normal organ. The performance of this operation is thoroughly justified and there are possibilities in the way of subsequent fertility. The success of transplantation of ovarian tissue has given rise to the idea of transplanting the ovary of one woman into another. This has been done recently with a certain amount of success. No cases of pregnancy have occurred as yet, but it remains to be seen whether this procedure may not be justified even by the hopeful tinge that it gives to a young woman's life that is otherwise sexually eclipsed.

Gynecological Conservatism.—Dr. W. M. Polk said that conservatism in surgery has become the keynote of modern advance. Gynecology is not behind her sister specialties in the matter of the preservation of all useful tissues. It is the fear that one may be trifling with the life of a patient rather than any overweaning desire for the removal of tissue, that prompts the want of conservatism on the part of gynecologists. After all, life is preferable to any mere function of life. Radical operations, however, have not always given the relief from symtoms that was promised. The important thing to know is what are the proper limits of conservatism. The destruction of the tissues in the pelvis, as everywhere else, is proportionate to the virulence of the infection. There are two principal infectious factors—sepsis and specific infection. Under sepsis is included all the pathological processes which follow conception and parturition. The main specific infection is of gonorrheal origin. In any case an early outlet for the products of infectious processes mitigates the damage done. Hence the first step in conservative gynecology is free incision of the cul-de-sac of Douglas, thus affording a vent for infectious products and drainage that prevents further accumulation. If this were done early enough it would preserve pelvic tissues from ultimate destruction.

Accessory Operations.—If in infectious processes in the pelvis a large flabby uterus is found this will be benefited by the thorough application of the curette. In pyosalpinx the process is always a prolonged one. Usually patients do not come to the surgeon until the condition has been going on for several months. If the case comes early enough amputation may prove successful in completely removing the focus of infection. Of course the virulence of the infection is important. Muco-pus may be allowed to take care of itself. Pus will require, however, thorough drainage and the prognosis of ultimate success in securing function of the tube is dubious. The treatment of cysts constitutes an important problem. Some cysts will take on pathological development that will require subsequent operation. Most of them will remain absolutely without producing any untoward effect.

Age Limit of Conservative Operations.—When there is any hesitation conservatism should be the rule unless the patient is near the age limit, that is, over forty-two. The sexual function is extremely important for the happiness of the individual and especially for those in contact with her. This gynecologists and neurologists are in a position to know better than anyone else. Relief is not always afforded by radical operation and when even a portion of the ovary remains there is always the hope of maternity to brighten the life of the patient. This justifies plastic operations upon the ovaries and tubes. Success in this line will lift from gynecology the stigma under which it has so long labored of doing mutilating, rather than helpful work.

The Immediate and Remote Results of 156 Cases of Conservative Operations Upon the Uterine Appendages.—This was the title of a paper read by Dr. W. L. Burrage of Boston, Mass. This paper will appear in a subsequent issue of the MEDICAL NEWS.

Conservative Surgery in 182 Cases.—Dr. A. P. Dudley of New York detailed his experience in 182 cases. Six of them he did not consider conservative when done, but the menses have continued and the operation, therefore, was as radical as was intended. Dr. Dudley considers that there is much more danger in conservatism

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than in routine radical gynecology. The surgeon is often called upon to decide on the spur of the moment as to whether he has to deal with a septic or a non-virulent condition and on this decision may depend the life of the patient. The circulation has all to do with the success of conservative operations. This is usually interfered with by the pathological process which has been at work. Conservative surgery, far from increasing the circulatory interference, rather lessens it. In so important an organ as the ovary Nature can be trusted to restore the circulation, if she be but given half a show. Operation often helps her in this.

Cystic Ovaries.—Dr. Dudley prefers not to use the cautery in opening cysts of the ovary, although it is used extensively in France and Germany. There seems no doubt that it is more effective than simple puncture in preventing the recurrence of the cysts. How far the action of the heat destroys tissues beyond the points of actual contact is not known. There is no doubt that the cautery destroys many ova that lie around the cyst. This is an important consideration in conservative gynecology. There is no doubt in Dr. Dudley's mind that tubes once closed may become patent again. Years ago he used strong silk to tie off a tube and in a subsequent operation, months after, finding the silk still present he removed it. The patient's other tube had been removed and when some months later she became pregnant there was no doubt that the first tube, though crushed by the ligature, had yet somehow become open again. The tube is assisted in preserving its lumen free by the diaphragmatic suction action which draws liquid from the abdominal cavity into the tube. This suction action of diaphragmatic motion is not generally understood. Any operator who opens an abdominal cavity a few days before menstruation is due will find in it a couple of ounces of bloody serum. This is pumped out during the menstruation through the tube, by the action of the diaphragm. This serum will not be found to occur in the abdomen after menstruation.

BOOK REVIEWS.

A TEXT-BOOK OF PATHOLOGY. By ALFRED STENGEL, M.D., Professor of Clinical Medicine in the University of Pennsylvania; Physician to the Philadelphia Hospital. Third Edition. 1900. W. B. Saunders & Company, Philadelphia and London.

CONSIDERABLE diversity of opinion will exist for some time yet among both pathologists and clinical teachers as to the best point of view from which to present the subject of pathology to students of medicine. Some, particularly the more philosophical of pathologists, mindful alone of the theme as biological, will pass rather lightly by the morphological aspects to lay stress upon some of the large and far-reaching fundaments governing cellular activity. To them the problems of disease present themselves as the physiology of cell life in the broadest sense. Another group of writers, looking at pathology from a wholly different aspect, has endeavored to correlate from the aspect of practice the morphologic findings of the autopsy with the clinical features of disease. For our own part the former alone embodies the true science of the subject, and the ideal will only find realization along these paths of interpretation. From this ground no book of pathology has been yet attempted; gleanings of this attitude are only derived now and then in monographic discussions. But it it to be hoped that the near future may number among its best scientific achievements just such a product of a newer outlook.

Of those books based on the traditional lines of treatment Dr. Stengel's book has been accepted as ranking among the best, especially in so far as the wants of most students and practitioners have been anticipated. Pathology is here the story of the physician of a younger generation. Beginning with the subject of causes, in a general way, to their general expressions, physiological and morphological, the author then takes up that great series of changes designated as inflammation. Here we confess disappointment. Inflammation has been so intelligently presented from the comparative viewpoint of the biological pathologist by Professor Adami in Allbutt's System of Medicine that the very inconsequential description of this theme here is a keen disappointment. The wide significance of inflammation is too important to be lightly dealt with; after all it constitutes the greater part of disease processes.

The general excellence of the section on bacteria will be appreciated by many. The classification of Migula has been followed. A few slips scarcely noteworthy enough to be mentioned have been detected here and there. Thus Koch is stated to have discovered the tubercle bacillus in 1880; as a matter of fact this investigator's first announcement was made before the Physiological Society of Berlin on March 24th, 1882. Other errors might be pointed out, but are really too subordinate to detract from the favorable impression on reading this section. In Part II. the special pathology is discussed; the accounts of the lesions are short and usually to the point. The revision of the sections on neuropathology has been carried out with uniform success by Dr. Joseph Sailer. On the whole this has been found sound and consistent. The mechanical part of the book is excellent.

As a book for undergraduate students or physicians at large Dr. Stengel's work will be found a safe and generally reliable guide to pathological morphology.

ENTEROCLYSIS, HYPODERMOCLYSIS AND INFUSION. By ROBERT COLEMAN KEMP, M.D., New York. James T. Dougherty, New York.

IT is being recognized more clearly every year that the practitioner has a ready means of influenc-

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ing diseased conditions in modifying the composition of the blood by the introduction of a diluent into the circulation. The rationale, the methods and the objects to be gained are all well discussed in this excellent small manual.

There has been a need for such a treatise and the present one can be commended as pertinent and as practical. The chapters on Intestinal Irrigation are of special interest, as are also those dealing with the application of dry heat or cold in the rectum.

Dr. R. H. Dawbarn of New York has contributed able chapters on Shock and Its Treatment and Anesthesia and Its Relations to Shock. For the many inquirers as to the proper procedures to be followed in the application of carbonated baths (Nauheim at Home) the very excellent chapter in Dr. Kemp's book will suffice.

A REFERENCE HANDBOOK OF THE MEDICAL SCIENCES. Embracing the Entire Range of Scientific and Practical Medicine and Allied Sciences. By Various Writers. A New Edition, Completely Revised and Rewritten. Edited by ALBERT H. BUER, M.D., New York City. Vol. I., Aac-Bla. William Wood & Company.

MEDICAL science is to be enriched by a second edition of this excellent work. It would be an impossibility to point out the various excellent features of this new revision, for in every sense of the word it is a revision, thoroughly modern and for the most part rewritten from the standpoint of the medicine of the last decade of the twentieth century. The work, moreover, is better illustrated than the first edition.

The work is a veritable *index-rerum* of medicine and should enjoy a wide sale.

A MANUAL OF SYPHILIS AND THE VENEREAL DISEASES. By JAMES NEVINS HYDE, A.M., M.D., and FRANK HUGH MONTGOMERY, M.D. Second Edition. W. B. Saunders & Company, Philadelphia.

IN this, the second, edition of this excellent manual the reviewer is forcibly and favorably impressed with the wealth of illustration, when compared with the earlier edition. This increased illustrative feature, in a work which is so markedly descriptive, gives it at once a value to the practitioner which no amount of descriptive language could impart. With it as a guide there is no excuse for the confounding of the venereal disorders which are distinctive. It would be too much to hope that any work could make the practitioner infallible, but it may be said that this volume presents very attractive and praiseworthy features.

TWENTIETH CENTURY PRACTICE. Edited by Thomas L. Stedman, M.D., of New York. Vol. XX. Tuberculosis, Yellow Fever and Miscellany. William Wood & Company.

WITH this volume Dr. Stedman has brought to a successful termination his monumental task of giving the American medical public its first extensive series of monographic treatises which are not system translations. Apart from all other considerations the editor is to be congratulated on the good work accomplished.

This present volume is intrinsically an interesting one. The subject of tuberculosis alone makes it an important volume in the series. The opening chapter, on the Bacteriology, Pathology and Etiology of Tuberculosis, by Dr. A. J. Lartigau, for conciseness, logical mode of treatment and pedagogic application, is one of the best known to us, and much the same praise is to be bestowed on the chapter by Dr. S. A. Knopf on the Diagnosis, Prognosis, Prophylaxis and Treatment. On the contrary, however, the articles on Yellow Fever and on Mushroom Poisoning are inadequate, and far from modern. The chapter on diseases of the Uvula, Fauces, etc., by Dr. J. E. Newcomb, and that on the Mental and Neural Diseases of Children are excellent.

PRACTICAL GYNECOLOGY. A Comprehensive Textbook for Students and Physicians. By Dr. E. E. MONTGOMERY, Professor of Gynecology, Jefferson Medical College. P. Blakiston's Son & Co., Philadelphia.

OF the making of books there is no end, but if they were all as good as this one the reviewer would derive much pleasure from his onerous duties.

It is practically impossible to give the necessary space in our columns in order that a correct appreciation of the volume before us might be given, but it may be said in short that we believe this to be one of the very best treatises of its kind. It is not a small book; there are 800 pages, and hence it cannot be slipped in the pocket for ready reference, but we believe that it is an invaluable work for every practitioner who is trying to perfect himself in gynecological work, both diagnostic and operative.

The work is beautifully illustrated, largely from half-tone plates of photographs of the actual conditions, and the generally recognized high class work of the publisher needs no comment.

DISEASES OF THE NERVOUS SYSTEM. A Text-Book for Students and Practitioners of Medicine. By H. OPPENHEIM, M.D., Professor at the University of Berlin. Authorized Translation by EDWARD E. MAYER, A.M., M.D. J. B. Lippincott Company.

To neurologists Oppenheim's treatise is favorably and extensively known, and non-German-reading practitioners may be assured in finding this work thoroughly modern and valuable. It does not depart in its general scope from many of the more recent text-books on the subject, but it bears throughout the impress of the author's rich personal experience. Perhaps the most important advance that is to be noted in Oppenheim's book is the frank admission of a section on diseases of the sympathetic nervous system. While such a recognition is not a new conception, he has, perhaps, extended the lines more widely than other writers known to the English-speaking readers. For this alone, the work is especially valuable.

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ORIGINAL ARTICLES.

OUR DUTIES TOWARD THE CONSUMPTIVE POOR.[1]

BY S. A. KNOPF, M.D.,
OF NEW YORK.

"CONSUMPTION is a disease which has claimed more victims than all the wars and all the plagues and scourges of the human race. Even in the few short years since Koch's discovery, over 2,000,000 persons on this continent have succumbed to the fatal infection. In the last two decades in Cincinnati, out of a total mortality of 119,089 there have been 17,353 deaths from this dread disease. The annual tribute of the United States to this scourge is over 100,000 inhabitants. Each year the world yields up 1,095,000, each day 3,000, each minute two of its people, as a sacrifice to this plague. Of the 70,000,000 individuals now peopling the United States, 10,000,000 must inevitably die of this disease if the present ratio is kept up."

These were the impressive words of my distinguished confrère, Dr. Geo. F. Keene, of Rhode Island, at one of the recent meetings of the National Conference of Charities and Correction. Our own city, according to the estimate of Dr. Herman M. Biggs, has constantly at least 30,000 cases of consumption, and of these more than 15,000 are harbored in our worst tenement districts. Please do not consider me an alarmist when I tell you that a vast majority of them will die just at an age when they should be bread-winners and useful citizens. Statistics show that the death-rate of consumption is largest between the ages of seventeen and thirty-five. I have said that a vast majority of these 15,000 consumptive poor of our city will die, but this will not take place until they have spread the germs of their disease broadcast, and endangered the lives of many of their fellowmen, rich and poor alike, in short, of all with whom they may have come in prolonged contact.

Nevertheless, consumption is an eminently preventible and curable disease. It is curable in nearly all climes, not only in California and Colorado, but also in New York and New England. All that is needed for the treatment of consumption is relatively good and pure air, good food and plenty of it, the best hygienic and sanitary conditions, and willingness on the part of the patient to submit himself to the constant guidance of his physician.

You may ask, "If consumption can be prevented and cured, why do physicians let these people die?" My answer is: Consumption is not merely a medical, but also a social disease. Society must come to the aid of the physician; he alone cannot cope with this affliction. If society, if our wealthy citizens, if the many noble men and women, willing and able to help, could only know the life-history of some of these consumptive poor, they would realize what I mean by saying consumption is a social disease, and they would at once see where their duties lie.

Will you pardon me if I give you the history of two people, a man and a woman, two consumptive patients whose medical adviser I was for a short time. The story of the man I have told once before, last year, on a cold February night, when a few people had ventured out to visit the tenement-house exhibition and incidentally, were willing to listen to a little talk for which the Committee on Lectures had booked me. My subject was "Tenements and Tuberculosis." I described to my small audience that night my first visit to this man, and, since I learned his story on that occasion, you will permit me to relate it here as I related it there. From this description you will also learn what it really means to be a poor consumptive, living in one of our average tenement-houses.

I beg you to follow me in imagination on this visit. We have left our comfortable homes and arrived in the tenement districts where the other half lives. We pass the throng in the narrow street, make our way through the crowds of children playing on the sidewalk, and enter the dark hallway. The first thing that greets us is the odor peculiar to badly-housed humanity. You cannot define it, but those of you who occasionally labor among the poor know it only too well. Have you ever thought what this odor really means? It represents the exhalations of a multitude of people, the toxic products expelled during the process of expiration, which settle on the walls, ceiling, and stairs of these hallways. Chemistry has not yet been able to fix its composition; we know it exists and we know its deleterious influence on the individual who is obliged to live constantly in such a house. Some very prosaic people call this smell "the smell of humanity," or "the smell of poverty." I do not quite like these names, for I think them neither appropriate nor just. There can be humanity without smell, and amidst poverty there can be the sweet atmosphere of cleanliness and purity. If the bad odor we perceive in our wanderings through those dark halls must have a name, let us call it the smell of ignorance and greed. It is the result of ignorance on the part of the poor housed there, and who do not know the value of fresh

[1] Address delivered by invitation before a gathering of ladies, on January 30th, at the home of Mrs. S. M. Jarvis, 1 West 72d Street, in the interest of the Stony Wolde Sanatorium, an institution which has for its purpose the care of working-girls, poor young married women and children, suffering from tuberculosis.

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air, sunlight, and the cleansing property of water—the trinity which, in combination, are the best antitoxin against those poisonous products. It is the result of greed on the part of the owner, for only a heartless man could tolerate such a condition of filth, foul air and darkness, as is characteristic of these tenement halls.

We ascend a few flights of stairs. Owing to the expense of artificial lighting, these halls are, of course, very dark, and, though we cannot see the dirt on the balustrades, we feel that it is there and only reluctantly take hold of them in order not to fall. We arrive at the rooms we are seeking. A knock at the door, a feeble invitation to come in, and we are in the midst of tuberculosis. There are two or three small rooms, but only one receives direct air and light. In a dark, small bedroom lies the patient; there is a different odor in this room, a distinct smell of disease mingled with the odor of cooking. We ask to have a window open, but the patient fears the draft. He is a husband and the father of six children, of whom two have died within the last year. The youngest of the remaining children is a few months old; the oldest, a girl of ten, attends to the household duties while the mother goes out to work. We greet our consumptive friend lying there, bid him cheer, and tell him that we have come to see what can be done for him. He faintly smiles and we ask him to tell his story. In a feeble voice, interrupted by fits of coughing, he tells us that up to two years ago he was a strong and vigorous man; he had a good position as a mechanic, lived in a better tenement than now, and drank only occasionally when life at home became too dull. Once he caught a severe cold. He went to a doctor. A few weeks of rest and some medicine and he got well. After some months another cold—the same treatment, the same result. And then again a cold, and so on, until the periods between the times when he could labor and earn became longer and longer. The savings from better times disappeared gradually; a cheaper tenement was sought; the visits to the doctor were given up, and the patient finally ceased to work altogether. To go to the dispensary was too much of an exertion. The faithful wife nursed him tenderly, but soon all the savings were gone. The burial of the two little ones—one having died of bowel complaint and the other of brain trouble—had cost so much that the mother decided to go out to work in order to support the family.

While listening to the pitiful story we look around the scantily-furnished rooms. The babies are playing on the dirty floor, touching everything with their little hands, putting their fingers in their mouths, and inhaling the dust laden with disease germs. When we consider that this case had only been reported a few weeks before, and that until then the patient had never exercised any care with regard to his expectoration, can we wonder that two of the children died within a few months, one from bowel complaint—which probably was nothing else than intestinal tuberculosis—and the other from brain trouble, which is only another name for tuberculous meningitis. The remaining little ones look pale and underfed. The little mother preparing the evening meal has seemingly a better appearance. She has to do so much running out in the street, to buy the provisions for the family that she gets more air, and if the father does not feel too badly she takes the baby out sometimes. Yet to the experienced eye there are already traces of overwork in this delicate child organism. The precautions the patient takes now with his expectoration consist in having placed before him on the floor a cuspidor partially filled with some antiseptic fluid. Owing to his weakness, he does not always succeed in depositing his sputum exactly in the center and sometimes he even fails to deposit it in the vessel at all. We call his attention to this lack of precaution and advise him to use a light mug which he can bring near to his mouth, or moist rags, which he should have burned in the evening on his wife's return.

Let us bid adieu to this unfortunate man for a moment, and let me speak to you of the case of a woman belonging to the class which you desire to help, for the benefit of which you have gathered here this afternoon and in the interest of which I have the honor to address you. A young person, a forewoman in a dressmaking establishment in one of our large department stores, presented herself to me for examination of her lungs. She had been ailing for nearly two years. I found her approaching the third stage of consumption, and yet she was working daily from half-past eight in the morning to half-past six in the evening; and when business was very brisk she stayed longer. This woman had been treated by several physicians and good physicians, but she did not improve. She came to me thinking I could do better, but I could not, and I will tell you why none of us succeeded in even bettering the condition of this poor woman. She could not, or would not entertain the thought of giving up work. Was she not the main support of the family, an old father and mother and some younger sisters, of whom only one earned a little as her assistant in the store? This devoted daughter and self-sacrificing sister was willing to take any kind of medicine, even follow my directions for better and richer food, but leave her work to spend all day outdoors in the open air, doing nothing, earning nothing, while her loved ones probably suffered from want, never! The story is a short one, but one of the saddest in my experience among the consumptive poor. It is pathetic to see such a noble-minded, large-hearted working-girl die because she would not cease working for those she loved. I was not spared seeing the last act of this drama. The younger sister, the assistant in the store, who was much attached to our heroine and almost her constant companion, presented herself likewise to me for examination. She too had contracted the disease, and at the time I saw her the tuberculous process had already made great inroads.

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You have united here to save as many of such noble-hearted but unfortunate working girls as you can. You know as well as I do that if you could have taken that older sister in time to your sanatorium for treatment and could have kept her there for six or nine months, she would as an incipient consumptive, have had seventy to eighty out of a hundred chances of being cured, and lastingly cured. Could you have comforted her in her anxiety about parents and sisters by telling her: "Don't worry, child, while you are with us we will also see to it that your parents and sisters shall not be in want," she would gladly have stayed in the sanatorium, followed implicitly the directions for cure, would only too willingly have devoted all her time to getting well, and the peace of mind, created by your care of her loved ones, would have added to her chances for recovery.

In the sanatorium, which is not only a healing institution, but also a school of hygiene, she would have learned from actual experience how to take care of her expectoration, how to protect others from infection and herself from reinfection, what to do and what not to do in order to get well and remain well. Ten to one, with such knowledge and training taken home with her, into the modest dwelling of her parents, that young sanatorium patient would have been a hygienic factor in the family, and the younger sister would probably never have contracted the disease.

The task which you have set yourselves is not an easy one. As I have endeavored to show you, occasions will arise when you will have to support a whole family for months in order to save the life of a single working-girl. You will need much money, much sympathy, and much goodwill to do the work as you would like to do it, and as I wish you may be able to do it. But of the greatness of the work you are about to do, I venture to say that even you yourselves have but a faint idea. Every girl you take into your institution means the suppression of a center of infection. It is very often the pulmonary invalid in the earlier stages of the disease, when he or she is still up and about, working every day and helping to support the family, who constitutes a veritable danger to friends and relatives and also to the community. It is this class of consumptives, which, from either ignorance or carelessness, spread their disease broadcast by depositing their infectious sputum everywhere without any regard to the danger. A careless or ignorant expectorating consumptive can eliminate and distribute seven billions of bacilli in twenty-four hours. You know that the expectoration of a consumptive, when allowed to dry and become pulverized, may, when inhaled with the dust of the atmosphere, cause tuberculosis. Predisposed individuals, naturally weak persons, or those who have just recovered from diseases like typhoid fever, pneumonia, scarlatina, smallpox, or grip, are particularly susceptible to contracting the disease. Thus, it is beyond calculation how many useful lives you may save by taking care of and curing one consumptive working-girl.

To expect the State or city alone to cope with the tuberculosis problem is unreasonable. The one State sanatorium, which we hope to have in our Empire State ere long, even could it accommodate a thousand patients, would only be like "a drop of relief in an ocean of woe." I fervently hope that the State will never have a sanatorium of that size, and I know that those who counsel our State authorities in this matter will never permit so large an aggregation of consumptives in one place. What are needed are multiple sanatoria and special hospitals of moderate size, located near the large centers of population. Our own State and city should have several of these, and private philanthropy will create more. There must be institutions which receive men, women and children suffering from tuberculosis, not only for the very poor classes, but also for people of moderate means. There are many people among consumptives who are too proud to enter an entirely free institution; they are willing and able to pay something and do not wish to feel that they are objects of charity.

The sanatoria situated at a greater distance from the city should receive, as far as practicable, the incipient and more hopeful cases. The special hospitals situated in the outskirts of the city should be as much for the purpose of isolation as for treatment. Such a patient as I described to you in our visit to the tenement-house should not be allowed to remain in the surroundings in which we found him. He is not only a danger to his family, but he may even infect the rooms in which he lives to such an extent that whoever happens to live in them after his demise may also contract a tuberculous disease.

You have my most heartfelt wishes for success. A nobler work you could not have undertaken. By creating an institution such as you have in mind, you will save many good and useful lives among working-girls and women. Your sanatorium will be the house of hope to many for whom there is nothing but despair at this moment.

16 West Ninety-fifth Street.

THE INTRAVESICAL EVIDENCES OF PERIVESICAL INFLAMMATORY PROCESSES IN THE FEMALE.

BY FREDERIC BIERHOFF, M.D.,
OF NEW YORK.

WHEN, thanks to the kindness of my friend and colleague, Dr. R. Knorr, of Berlin, Germany, I was enabled to examine and cystoscope those of his clinical patients who presented symptoms referable to vesical changes, I was early struck by a condition which seemed to me, on first examination, to be a change similar to, if not identical with *vessie à colonnes*. Further examination of

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the cases, however, convinced me that this view was erroneous, as the changes were invariably confined to *limited portions* of the bladder-wall, and as they occurred in patients who presented absolutely no obstruction to, nor difficulty in urination, as must precede the formation of *vessie à colonnes* (that, therefore, an hypertrophy of the muscular coat of the bladder might be excluded), but who had, in the majority of the cases, at some previous period, suffered from a parametritis, or allied conditions.

Upon calling the attention of Dr. Knorr to the subject, he suggested that we examine, whenever possible, all those cases giving a previous history of parametritis, perimetritis, or old malpositions, whether or no they presented vesical symptoms. This was, therefore, done, with the following result: Total number of cases examined, 443; history of parametritis, perimetritis, etc., obtainable in 214; symptoms referable to the urinary organs present in 264; "pericystitic strands" present in 136; no other discoverable cause for symptoms than perivesical changes in 8; perivesical changes, as accessory cause, in 67.

In cases of perivesical inflammation, the cystoscopic picture varies according to whether the pelvic inflammatory process is a recent, or an old one, and whether it has extended to and involved the bladder-wall, or only the adjacent tissues. If the process is recent, the exudate encroaches to a greater or less extent upon the bladder, the distensibility of which is, to a corresponding degree, impaired. If the exudate is unilateral, the excursions of the cystoscope are limited on the affected side, while normally free on the unaffected one. Similarly, if it occupies Douglas' cul-de-sac, the uterus tends to be somewhat displaced forward, and the excursions are limited toward the posterior wall of the bladder. In all these cases, if the amount of exudation is marked, the bladder-wall will be seen to bulge inward over the site of the exudate. When an inflammatory process in the tissues adjacent to the bladder extends to and involves the wall of this viscus (frequently an accompaniment of salpingitis and perisalpingitis), we at times meet with "œdema bullosum."[1]

When the process is an old one, and the exudate has gone on to organization, the cystoscopic picture is an entirely different one. In the same way that displacements of the uterus and adnexa may be caused by the traction of the fibrous strands, resulting from the organization and contraction of an inflammatory exudate, we may have the bladder affected by these strands pulling upon parts of its wall. But, while in the case of the uterus and adnexa, we get *displacements*, in the case of the bladder there is *distortion*. The most characteristic appearance, however, in these cases, is the presence, over *parts* of the bladder-wall, of sharp, scar-like formations, which rise, to a greater or less extent, above the surrounding wall, have a yellowish-white color, and tend to fimbriate at the ends. The parts usually affected are the lower lateral and the upper posterior and postero-lateral portions of the bladder.

Two conditions are to be differentiated from the "pericystitic strands." These are columnar bladder and the contractions of the muscular coat of the bladder. Of these the former is found only when some obstruction to the outflow of

Fig. 1.

"Pericystic strands"; mild degree of development.

urine has existed for some time, and has led, as a consequence, to hypertrophy of the bladder-muscle. The obstruction may be mechanical (foreign body, marked prolapse, tumors), or spastic, as in the early stage of tabes.[1] When this condition is present, the *whole* of the bladder-wall is involved in the hypertrophic process. It will be seen that the wall is crossed by a network of projections above the surface. These projections appear to anastomose, or to cross each other freely. They are of rounded contour. The

Fig. 2.

"Pericystic strands"; marked degree of development.

"pericystitic strands" are, as before stated, limited to certain *circumscribed portions* of the bladder-wall, rise, as a rule, less markedly above the surface, tend to have fimbriated extremities, and are of *sharp* contour. The contractions of the bladder-muscle are easily excluded, for, when they occur, we see the muscle-bundles appear and then disappear, over the entire field of vision, with the contraction and relaxation of the bladder-wall.

[1] Kolischer, Die Erkrankungen der weiblichen Harnröhe und Blase. Casper, Handbüch der Cystoskopie.
Bierhoff, Oedema Bullosum Vesicae.—MEDICAL NEWS, Nov. 24, 1900.

[1] Bierhoff, Dermatologisches Centralblatt, Vol. III., No. 8.

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The prognosis of the recent condition is that of the exudative inflammatory processes themselves. The later changes are of interest chiefly because they may exert an influence as complicating factors in disturbances of urination, especially as an accompaniment, or additional cause of vesical hyperesthesia.

Treatment of the recent processes usually results in the disappearance of the vesical changes, although further involvement, with perforation of pelvic abscesses into the bladder-cavity, may occur. In the older cases, where the afore-mentioned strands are present, the prognosis, as regards the disappearance of urinary symptoms, is excellent. With regard to the full resorption of the strands, it must still remain an open question.

The treatment of the recent cases resolves itself into measures to relieve the underlying cause, and later to promote resorption of the inflammatory exudation. In those in which the strands

Fig. 3.

"Vessie à colonnes," with diverticulum, in a female.

are present, it consists of treating, first, of any inflammatory vesical changes, and, later, gradual distention of the bladder. The last-mentioned procedure, which gave us excellent results in a number of cases, is employed as follows: By means of a graduated syringe, a quantity of some indifferent fluid (boiled water, or boric-acid solution) is gently injected into the bladder, to the extent of its tolerance, and allowed to remain there for some minutes. It is then allowed to flow off until but a small quantity remains. On the following days gradually-increasing quantities are similarly injected, until, after a length of time which varies according to the extent of involvement and the elasticity of the strands, the bladder tolerates the normal amount of fluid. In this way we were enabled to remove entirely all vesical irritability, and, in several instances, to bring about a disappearance of the strands themselves.

651 Madison Avenue.

Consumptive Hospital.—At the regular monthly meeting of the Citizens' Committee for the erection of a consumptive hospital, in this city, the Secretary made a report of having received several donations for February, so that the total amount received at the present time is $20,842.

THE PREVENTION OF INSANITY.[1]

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A LARGE proportion of the insane, not less than fifty per cent., should never have been born, and for this mistake physicians are to a certain extent responsible.

A young woman came under my care for acute mania. She was the affianced of a young man then in service in Cuba. She had suffered the usual distress present under such circumstances and her bravery had sustained her until her lover, after a severe illness, had returned to the United States. Upon receipt of a telegram that he was in the country and upon his way home in excellent health, she broke down completely and became so actively maniacal that three attendants were required to bring her on her journey of some hundreds of miles from a neighboring State for detention and treatment at Mindsease Retreat for mental cases connected with the Mt. Tabor Sanitarium. The family history disclosed the fact that the mother, before the girl's birth, had been insane and under restraint for some months; that at the time of her discharge from the asylum, then not quite recovered, the physician-in-charge had advised the husband and local doctor that the earlier pregnancy should occur, the better it would be for the patient. This advice proved good for the patient (although it would not ordinarily be so in one case in twenty) for, when pregnancy ensued a few weeks later, the mother entirely recovered her health which has since remained good.

There are others, however, involved in this momentous advice, how many, time and some generations of descendants being yet required to determine. The young woman referred to was its first victim. She made a good recovery, although the form of the malady in a few weeks became more and more of a melancholic type, which in time left her, and she was discharged from the institution. She was an educated woman, and she often spoke of the fact that, in view of her family history, she ought never to have been born. I talked to the father about her prospective marriage and, with his permission, gave my opinion to the young man, going over the whole subject in the presence of both these men so deeply interested in the grave problems surrounding the case. The patient was a sufferer from some ovarian disease which had made her somewhat of an invalid and I advised that the ovaries should be removed, not so much, however, on account of their diseased condition as to preclude the possibility of further propagation of defective offspring, marriage being, as is so often the case, insisted on both by the man and the woman to the prospective contract, in spite of the advice of the physician. I can see no serious objection to the marriage of a recovered case of insanity in a

[1]Read before the Wyoming State Medical Society, Oct. 10, 1900.

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woman, if the dangers of the puerperium are eliminated and the prospects of progeny done away with through the removal of the ovaries, the prospective husband being informed of the condition of the woman and freely and in the presence of the family accepting the charge which this implies.

The sexual passion of the average woman, even with her ovaries, is of such trifling moment that ovariotomy need not on this account be largely considered. If the prospective husband is willing to enter the marriage bond with a recovered insane woman he should be even more willing to undertake the step if the danger of begetting offspring with such a taint has been entirely eliminated. Such a woman has thus a home, and I have known of several such instances where there seemed the highest degree of happiness to both parties. Recurrence under such circumstances is not at all likely; when it does take place, the effect is not very serious.

In the matter of marriage, the question of consanguinity is an important one. It would seem that Nature, heartless toward the individual, but careful of the race, as has been pointed out by one of our greatest poets, brings the hapless together in mating in order that the weaker strains may eventually become eliminated, and in no division of life is this fact more pronounced than in the tendencies of relatives to intermarry when neurotic or insane proclivities exist in the family. The disposition to intermarry in these cases has been said by many writers to come from the natural shyness of this class of individuals toward strangers and the consequent closer acquaintance with their relatives than with others. I believe, however, that it is more on account of the natural affinity of persons thus nervously situated.

We may lay it down as a rule to be invariably advocated that, when insanity is in a family, intermarriage should not be contracted. Unfortunately the physician's advice is seldom requested until after the engagement and then it is sometimes disregarded. It should not be difficult to break up such a match, because the defect is upon both sides and in either case a withdrawal may be pleaded on account of a condition of mental peril to the other on account of the weakness of the individual who is advocating the separation. It is quite difficult in other cases to break off a marriage into a family, no matter how notably insane. It is not easy for a young man to tell a young woman that on account of her family he must relinquish her; it is an ordeal which many young men will decline to undergo, preferring rather to chance future misery on untold generations, or more likely leaning upon that unreliable belief that no children will ensue as a result of such marriage, rather than inform the girl he loves most of any in the world that for any reason she is not good enough for him to marry.

When considering the tendency to insanity the time of the attack of the malady relative to the birth of the child is one of much moment in regard to the probabilities of the case. In the case of the daughter of a mother who late in life develops insanity, the father being of a vigorous, nervous stock, the daughter having been born early in the mother's life, there should not be given the same psychiatric value and objection to matrimony as though conditions were otherwise. In the case of a son under similar conditions a still more favorable opinion is possible. If the father had been the invalid and the mother healthy, a daughter's chances would be better than the son's, and *vice versa*. When there is a mental taint, either great or small, so far as the prospective offspring is concerned, if marriage is to be consented to at all, it should have our approval only when the other party to the contract comes of good, vigorous stock in which neither insanity, epilepsy or any of the grosser neuroses have been present.

When marriage has been effected the advice that no children shall be born is good, although it is much easier to give such advice than to enforce it. It is not often that a case comes under our knowledge, such as one recently known to me, in which a husband, whose mother died in an insane asylum from an illness resulting from traumatism, and who had himself two years before developed epilepsy after a meningeal inflammation, had duly considered the subject with his wife, and the sexual relation has been entirely suspended since the occurrence of the first epileptic seizure. The trouble is that people do not exactly understand the import of the mental and nervous symptoms, or, understanding them, do not feel like subjecting themselves to such rules of life as would be best under the circumstances. The best that we can do in most of these cases is to protest against large families, remembering that the ordeals of pregnancy, lactation and the care of rapidly-growing children are especially trying upon the nervous and mental powers of the neuropathic mother, and that a healthy woman in rapidly-supervening pregnancies is less able in her offspring to offset an evil mental tendency upon the part of her husband, as such pregnancies are repeated.

The husband, in either his own or his wife's defective condition, must be taught the absolute necessity for the sake of his children, if not for that of his wife, of extreme kindness and thoughtfulness toward the mother of the growing child during pregnancy and lactation. Everything of a distressing nature, which might through the mother produce an unfavorable result upon the child, must as far as possible be removed. Suitable food and exercise for the mother should be maintained during pregnancy, and it is an unfortunate thing when she must work too hard or be burdened with too many cares, family or otherwise, during this important period. A mother of a decidedly neurotic tendency should not nurse her child, both for her own sake and for the child's sake, and if she is of an irritable temperament, the child's early days should be passed in the hands of a carefully-selected nurse possessing equanimity of disposition, stability of character and the tact to govern children. It augurs well for such a child when it falls into such hands, and

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I believe that if this were always so in these cases the percentage of insanity in this country would grow much less year by year, rather than show an increase as it does at present.

Sleep is the greatest foe which insanity has, as syphilis and heredity are its greatest friends. Multitudes of people sleep badly who are not insane and who will not become so, and in this country our most distressing patients are often found among those who are otherwise in fairly good health but who are troubled with insomnia. Because insomnia is not necessarily a precursor of insanity is no reason why we should not fully realize the pernicious possibilities along this line in individuals suffering therefrom. Against this symptom should be directed the very best efforts of the physician, because no one can tell until an explosion comes which is the serious and which the harmless case. It is so easy to give a hypnotic that we sometimes do so when we should not, and every effort should be made to relieve these cases by the use of a more suitable diet, proper outdoor exercise, the cold pack, baths, a vacation from work, and such changes in the ordinary affairs of life as may relieve those particular nerve-cells which are the victims of fatigue. We must remember our own responsibility touching the question of drug addiction, and be extremely careful that when a hypnotic is prescribed that the patient shall not have the opportunity of renewing the same without our orders.

During the past year no less than six patients in cases of drug addiction coming under our care have told me that the contraction of the habit was due to the physician in attendance. One of these was a patient for whom the drug was prescribed by his father, who was a physician. This habitué took the drug as a spray into the nose, as directed by rhinologists, before the cocaine habit was known. In this instance the habit had existed since long ago, when the first few grains had been administered. The physician in this case was entirely blameless, but I fear that in some other cases such was not entirely the fact, although I appreciate that the statements of these patients upon this subject are rarely reliable.

The food for the growing child of neurotic taint should be carefully selected and prepared. His food should be well cooked. His digestive apparatus, if defective, should be carefully studied and appropriately administered to. Clothing should be selected relative to the season of the year, but in the matter of both food and clothing his taste should not be pampered. He should sleep alone and have as much room as is convenient, with plenty of fresh air. His exercise should be of an outdoor, hardy character, even, if as is sometimes noted, there is a good deal of reluctance to outdoor life and to mixing with other children.

Masturbation in a boy should be guarded against. He should be warned at a tender age of the evils of this habit and a repetition of this warning should be made every year or so until he shall have reached the age of eighteen or twenty. In fact, this should be done in the case of all boys. A case of insanity under my care in a young man of twenty-five, in which masturbation was the undoubted cause, would not, in my own and the young man's opinion, have occurred, if the parent had given him timely warning. In this case, as in so many others, the carelessness of the boy's parents in not warning him and his own ignorance led up to the fateful sequence of this unfortunate habit.

The schooling of the child must be carefully planned. These children are, more often than otherwise, precocious, and the teachers and parents are proud to see their rapid mental development. Instead of being crowded, these little invalids, the irritability of whose nerve-cells rather than their special energy being the cause of their apparent brightness, should often be taken out of school, and, in any event, a brake should be put upon their ambition and their work. They had better be taught to strive to become like the ordinary child, rather than to be the exception.

Another class in the mental defectives embraces the dull child, who is often abused because of his stupidity until life becomes a burden to him. Although this represents a phase of mental character upon the other extreme, for both of these classes a special course should be selected at school, and those branches which are most difficult for them should be reduced to a minimum or entirely eliminated. It is much better that these individuals should reach middle life in good mental form, although not specially noted as scholars, than that they should carry off honors at school and college, because they have taken the full course and have on such account reached middle life in an indifferent state of mental health, if no more serious condition than this has supervened.

In all things the child should have his life shaped so that he is to be a man in the middle of the marching column. He should not be a leader and bear the necessary responsibilities consequent thereto. Neither should he be subject to the torments which afflict one who is harassed by being the last man, "the under dog." In the latter class are developed the dangerous anarchistic insane, many of whom are not confined but go about the world stirring up trouble. Moderation, therefore, should be enjoined and he should not be encouraged to believe that he is an individual above the ordinary, for the ego is usually unduly developed in nearly all of these cases.

As a business-man he should enjoy an out-of-door life as much as possible. His habits should be regular and he should be temperate in all things. We are all able to do better work, we are told, in eleven months than in twelve during any year, which I believe is quite true, but I know it is especially so with a man who has a weak place in his mental make-up.

The surgical defects of our patients who have possibilities for mental trouble before them should have the careful attention of our surgeons. Many cases become markedly improved after having been under the surgeon's care. Troubles which are a source of much worry, such as urethral stricture in men, hemorrhoids in both sexes and pelvic

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disorders in women, merit attention, although in some instances surgical work has been carried to an extreme in this regard. I saw at Salt Lake this week a case in which a woman who had been insane had been subjected to the loss of her ovaries for insanity. Although the great nervous shock of a surgical operation of this character may sometimes shake the insane individual out of a state of lethargy and augment recovery, that result is so rare that the removal of healthy ovaries for insanity is, as an act of neurotherapy, an obsolete procedure. Nevertheless I always feel, as in the case mentioned, that when the gynecologist removes the ovaries, healthy or diseased, from an insane woman, unless the patient should die, he is doing a possible service to the race, although the mental recovery in such cases may not be accelerated.

Unlucky is the day in which a mental defective contracts syphilis and more so when the treatment therefor is insufficient. The terminal dementias and mental pareses are largely syphilitic in origin and in many of these cases treatment has not been thoroughly administered, largely because the mental state of these individuals makes them bad patients upon whom to enforce protracted treatment. In the young with congenital symptoms of this disease, where they is a tendency to insanity, it is inexcusable for the physician to fail to administer a full course of specific treatment.

All epilepsies need our closest attention; especially true is this regarding the *petit mal* forms. When one of our patients complains of sudden, dizzy spells and sometimes of moments of loss of consciousness, although she may not fall nor make an outward sign of this condition noticeable to others, it behooves us to take prompt measures at this time of probable cure for the relief of a condition which will likely lead on to *grand mal* attacks.

Hysteria and neurasthenia and kindred states must not be overlooked, but require as careful care as though a more acute illness was present. The strain upon the nervous system in these conditions is always great, and in occasional cases insanity does follow. Alcoholism or the gambling habit, whether with cards, in stock or otherwise, is a business or a sport for others than those of whom I am speaking. The nervous strain is too severe and both in success and in losses have I seen mental illness occur. The easiest prey seems to be he who has gone through many trying ordeals, including want and suffering, and who suddenly finds himself rich. Two cases like this have come to me from Alaska in men who had suffered from long misery, under which they had stood up bravely and without much apparent ill effect, to break down when Fortune smiled upon them. Both of these, however, were defectives and one had been a subject of syphilis fifteen years before.

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THE TONOMETER AND ITS VALUE IN DETERMINING ARTERIAL TENSION.[1]

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THE first experimental attempt to study the blood-pressure was made in 1727 by Stephen Hales[1], an English clergyman. He exposed a superficial artery in a horse and inserted a canula to which a straight glass rod was attached so that the height of the blood-stream could be observed. The hemometer of Magendie[2] appeared later, improving on Hales' apparatus in substituting for the straight tube a U-shaped glass tube filled with mercury. Nothing was done to determine the arterial pressure in man until 1856 when Faivre[3] inserted Magendie's hemometer in arteries exposed during operations.

The late Professor Albert[4] was interested in this subject and published the results of a long series of experiments, similar to those of Faivre, in 1883. Stricker[5] in 1866 proved that the capillaries are contractile; that changes in the size of their lumen can be produced by electrical irritation, and that this is associated with raising or lowering the arterial pressure. Marey[6] was the first to devise an instrument which could be used clinically, not surgically, to determine the arterial pressure. This instrument was not perfected until 1878. A number of appliances have since been devised, but most of them were too complicated for every-day use and suitable only for the physiological laboratory. The best known are those of Potain[7], Von Basch[8], Frey[9], Mosso[10], Hürthle[11], Oliver[12], Hill and Barnard[13] and Riva Rocci[14]. Some were most ingenious, but few proved practical. The sphygmomanometer of Von Basch had the greatest employment on account of its simplicity, and much valuable information regarding the blood-pressure was obtained through its use. Its worth, however, is relative, not absolute, and on account of its unreliability and large range of error it is not in large demand. Moreover, much skill is required to obtain even approximate results.

[1] Read at the annual meeting of the New York State Medical Society, Albany, January 28, 29, 30, 1901.

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The simpler the mechanism and application of such an instrument the less is the personal error and the more valuable are the results. The tonometer is the most recent instrument of this sort and I desire to bring it to your attention. It was invented by Dr. Gustav Gaertner[15], Professor of Experimental Pathology at the Vienna University. He first exhibited the tonometer before the Vienna Gesellschaft der Aerzte in June, 1899. It met with instant approval and was at once employed in the wards of Nothnagel and Neusser at the Allgemeines Krankenhaus. Since then it has grown in favor throughout Austria and Germany. Descriptions of the tonometer with favorable comments have been made by Tschlenoff[16], Weiss[17], Schüle[18], Doering[19], Doleschal[20] and others. Doleschal made several hundred tests with the tonometer and sphygmomanometer for purposes of comparison and concluded that the tonometer was more exact, easier to apply and simpler to manage.

The tonometer consists of a pneumatic ring, mercury manometer, rubber ball and rubber tubing. The ring is made of metal and large enough to easily slip over and cover one of the phalanges. There is a hole in one side where the rubber tube is attached. The inside of the ring is covered with a thin rubber membrane and is air-tight, the only place that air can enter or escape being through the opening in the side. The manometer is simply a glass tube with a bulb filled with quicksilver. A scale is attached which registers up to 260 mm. The tubing is T-shaped with the ring, manometer and rubber ball attached on the free ends. These parts are separable but by the use of leather washers the joints are made air-tight. Pressure on the ball forces the air into the mercury bulb and pneumatic ring, raising the mercury in the one and distending the membrane in the other. To slowly regulate the pressure on the ball there is a small wooden press with a thumb-screw in which the ball is placed. Professor Gaertner has designed a small aneroid manometer which registers the same as the mercury scale and which can be carried in the pocket.

The technic is simple. The pneumatic ring is slipped over the second phalanx of one of the fingers and the blood removed from the finger-tip by rolling a small rubber band down to the joint. The rubber ball is then compressed until the pressure exerted upon the digital arteries by the ring is greater than that of the blood in the arteries. The rubber band is withdrawn and the finger-tip should remain anemic. The pressure on the ball is slowly and evenly diminished until the finger-tip becomes intensely red. The height of the mercury in the tube is then recorded.

All the earlier instruments were constructed so as to find when the pulsation in the vessel disappeared. Professor Gaertner reversed this and the tonometer records the pressure when the pulsation reappears. The finger is admirably adapted for this purpose. The two digital arteries provide the blood-supply and these are close to the surface and near the bone, and so can be completely compressed by the pneumatic ring. When the rubber band is removed and the finger remains anemic it shows that the ring is exerting a greater pressure than that in the arterial system. The pressure in the ring is gradually reduced, and the instant the pressure in the ring is equal to or a little less than the pressure in the arterial system the blood will flow through the arteries and the finger-tip will become hyperemic. The same instant a marked pulsation is felt by the patient. The mercury scale records exactly the amount of pressure exerted upon the finger, so that when the finger-tip becomes red the amount registered on the scale is approximately the amount of blood-pressure in the digital arteries.

The tonometer is not above criticism, nor is it perfect, but it is by far the simplest and most satisfactory instrument for the estimation of the blood-pressure yet devised. It must be absolutely air-tight and the rubber ring and tubing must be frequently renewed, as the rubber rapidly deteriorates when not in use, especially in summer.

The difficulty in deciding about the tension of a pulse is well known, for the sense of touch is not infallible. As long as digital examinations are made to study the blood-pressure no exact deductions can be made. Oliver[21] says that our knowledge of arterial pressure is limited because our methods and means of observation have been faulty.

The blood-pressure is dependent on three factors: (1) The amount of cardiac power; (2) the amount of peripheral resistance; (3) the amount of blood in the vessels. The pressure is usually determined by the force the finger has to exert in order to stop the flow of blood in the radial artery. Physiologically there are three pressures; the maximal, minimal and middle. The maximal is the systolic, the minimal the diastolic, and the middle pressure is the average of the two. In general when we speak of the arterial pressure we refer to the middle pressure. To recognize these degrees of tension is an art and requires much skill and experience. A. Fraenkel[22] claimed that the tonometer records only the maximal pressure, a great fault of most of the previous instruments. To settle this point Gaertner[23] recently made some original and interesting experiments. He procured some dogs with white tails. The tails were shaved and rendered anemic by means of a rubber band, and the pneumatic ring applied. When the pressure in the ring was reduced to the proper point the section of the tail became red. The direct pressure was obtained by inserting a canula in the carotid or crural artery and at the same time the pressure in the vessels of the tail was determined by the tonometer. Different sets of observers attended to the two readings. The maximal and minimal pressures were obtained by the direct method and the average of the two gave the equivalent of the middle pressure. In every test the tonometer recorded either the exact middle pressure or a few millimeters above or below. This proved the absolute worth of the tonometer.

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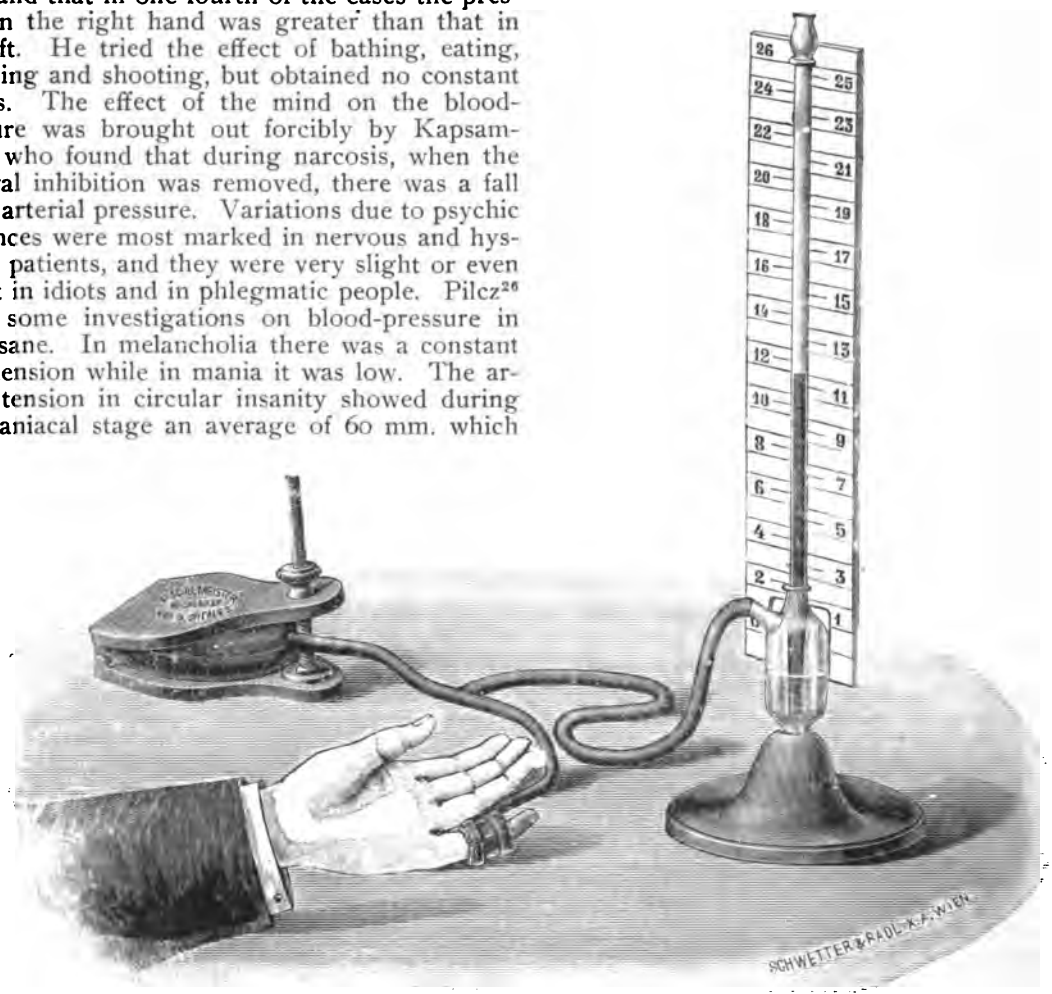
The conditions where an exact knowledge of the blood-pressure is important and even diagnostic are numerous.

A number of articles have appeared in the foreign medical journals this past year on work done with the tonometer. An exhaustive study of the arterial pressure in healthy adults was made by Jellinek[24]. He found that the normal pressure in 532 soldiers averaged between 100 and 160 mm., and that in one-fourth of the cases the pressure in the right hand was greater than that in the left. He tried the effect of bathing, eating, marching and shooting, but obtained no constant results. The effect of the mind on the blood-pressure was brought out forcibly by Kapsammer[25] who found that during narcosis, when the cerebral inhibition was removed, there was a fall in the arterial pressure. Variations due to psychic influences were most marked in nervous and hysterical patients, and they were very slight or even absent in idiots and in phlegmatic people. Pilcz[26] made some investigations on blood-pressure in the insane. In melancholia there was a constant high tension while in mania it was low. The arterial tension in circular insanity showed during the maniacal stage an average of 60 mm. which rose to 160 mm. in the period of melancholia. In the early stages of general paralysis the tension was normal, but it gradually sank as the disease progressed so that the tonometer would register between 50 and 80 mm. in the terminal stage.

Heim[27] found there was a high tension in neurasthenia and hysterical children and claims this constitutes an important diagnostic point. Neisser[28] emphasizes the importance of a correct estimation of the blood-pressure at the bedside both for prognosis and treatment. He has also found it of value in the prognosis of acute infectious diseases. One of the assistants in Nothnagel's clinic, Czyhlarz[29], ascertained the arterial tension before and after the administration of digitalis to cases with uncompensated heart-lesions and to healthy individuals. He reported that digitalis in small doses had no effect on the arterial tension nor on the amount of urine excreted in persons whose circulatory systems were normal. The same dose, however, in patients with heart-disease caused an increase both in the arterial tension and in the amount of urine passed. Lepsius and Schott[30] of Nauheim found by means of the tonometer that the carbon-dioxide baths brought about an increase of 10 to 20 mm. in the arterial tension of patients suffering from heart-disease. A. Fraenkel[31] described a case of albuminuria in which a digital examination of the pulse showed no increase in tension and where a marked increase was revealed by the tonometer. Grebner and Grünbaum[32] tested the effect of muscular work on the blood-pressure and found that there was an increase during the work which depended on the amount of work and the training of the individual. When the work ceased there was a fall in the pressure. They also showed that posture, time of day and respiration influenced the arterial tension. Wagner[33] claims that there is a fall in the blood-pressure during sleep. Kapsammer[34], who was one of Albert's assistants, made a number of experiments to discover the lowest fall, compatible with life, in the blood-pressure



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during operations. In several of his cases where the tonometer registered below 60 mm. there was a normal pulse frequence and respiration, but they ended fatally from twelve hours to six days after the operation. He believes that 60 mm. is the lowest limit compatible with life and that the fall in pressure has more prognostic value than the respiration and the pulse. Schröder[35] studied the blood-pressure after gynecological operations and plotted out curves from the variations which he claims are as constant after certain operations as are temperature curves in certain diseases.

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THE PRESENT STATUS OF THE SUBARACHNOIDEAN INJECTION OF COCAINE FOR ANESTHESIA (CORNING-BIER METHOD).[1]

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AT this time there is probably no subject in medical literature which is receiving more attention than the subject mentioned in the above title. This procedure has been variously named by different authors. It is not my desire to criticise these titles. Some are inaccurate and others misleading. The following are sample titles taken at random from current literature: "Medullary injection of cocaine for analgesia," "medullary analgesia," "medullary narcosis," "subdural infiltration," "spinal anesthesia," "cocaine anesthesia of the spinal cord."

To the author it would seem that "subarachnoidean injection of cocaine for anesthesia" would be rather more descriptive and more nearly anatomically correct. While this method enables us to produce anesthesia over about four-fifths of the body, from the toes to the level of the clavicles, nevertheless, it is only a contribution to local anesthesia by cocaine in contradistinction to general anesthesia by the inhalation method. Not unlike many other discoveries and advances in medicine it must pass through the ordeal of a period of probation, divided into three stages, *viz.*, enthusiasm, moderation, and finally therapeutical approbation. A superficial perusal of the current literature on subarachnoidean injection convinces one that the results of the application of this method are not always uniform or desirable. Thus an element of doubt presents itself as to whether all the operators have been exact in their technic or discreet in the selection of cases.

The spinal canal contains a structure of a highly-organized and sensitive character, encroachment upon its domain being in many instances more serious than upon that of the brain, owing to its anatomical inaccessibility in after-treatment, as, for instance, in streptococcus or other infection. It is true that the area directly involved in this procedure is no longer traversed by the spinal cord, but by a leash of nerves called the cauda equina. It is at this point that the cocaine solution, although diluted by the cephalorachidean fluid, has its strongest effect, thence by diffusion it anesthetizes the spinal roots higher up in the canal. The membranes and spaces are continuous with those of the cord above. The cocaine solution is rapidly disseminated upward, and, when injected between the fourth and fifth lumbar vertebræ, the analgesia ordinarily extends from the toes to the costal arch.

Fowler reports two cases of puncture between the second and third lumbar vertebræ in one of which the analgesia extended to the clavicular level; in the other, to the supra-orbital region. These peculiar deviations do not seem to depend upon the strength of the solution, nor on the amount of cerebrospinal fluid withdrawn. This phenomenon has not as yet been satisfactorily explained.

Is is safe to predict that in the near future some venturesome surgeons will try to outpoint their colleagues by injecting an intervertebral space higher with each operation and will thus gradually invade the ground now considered physiologically forbidden until they meet with disaster. It is claimed that idiosyncrasy to cocaine intoxication enacts an important rôle in this form of anesthesia. While it is well understood that cocaine behaves very erratically in many cases when administered either hypodermatically or by absorption, it would seem that the undesirable side-effects of subarachnoidean cocainization are produced by the same *modus operandi*.

[1] Read before Arapahoe County (Col.) Medical Society, Nov. 20, 1900.

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namely, diffusion. In quite a number of cases reported the caloric and respiratory centers were involved to a most alarming degree. Probably the deaths reported were due to this cause. An anatomical study of the spinal canal teaches us that the blood-vessels and lymphatics are chiefly extradural, and that the subarachnoid membrane and pia mater can absorb but little of the drug. As the author reasons, the action is a local one upon the posterior nerve-roots, also, that when higher centers are involved it is by diffusion through the spinal fluid, and not through absorption by the spinal cord. The anesthesia of the nerve-roots from their point of entrance into the spinal canal to the postero-lateral groove of the cord, inhibits the transmission of sensation.

That this theory is plausible can be demonstrated by injecting solutions of cocaine, eucaine, or nirvanine into the immediate vicinity of a peripheral nerve-trunk and thus anesthetizing the entire area of its distribution. The idiosyncrasy to cocaine intoxication must not be overlooked, particularly when the solution comes in contact with a vital center. Therefore, it is presumable that the higher the injection is made, the greater the degree of danger. It would be quite an interesting experiment to study the diffusibility of a cocaine solution in the lumbar subarachnoid space of a dog. The animal should be immobilized in a box with his legs protruding from the bottom. The dog resting as in the standing position. He is next etherized (dogs do not bear chloroform well). The cocaine solution should be impregnated with some chemical which should not increase its specific gravity or diffusability in the spinal fluid. The hide is split up the dorsum and rapidly turned aside and a few drops of the fluid drawn off at different intervertebral points. A number of test-tubes should be at hand, containing a chemical solution which would show a reaction when the changed spinal fluid is added. A salt solution injected would give a milky reaction with a solution of nitrate of silver; or, chloride of iron added to the injection would give a black or inky reaction when added to a solution of tannic acid.

Probably, the best method would be to evaporate the fluid obtained and thus recover the crystals of cocaine. This of course would be quite tedious. The animal should be weighed and the dosage should be in proportion. Physiologists have a rule governing these proportions. Three points might possibly be demonstrated: (1) The rate of diffusion; (2) the strength of the solution at the most remote point; (3) the recognition of the drug in the ventricles of the brain. This is only thrown out as a suggestion which may be improved upon.

The enthusiasm of the surgeon must be tempered by the conscientious observance of the most minute details. To be misled by the *furor* is both reprehensible and sad. Cases should be carefully selected, and *this variety of anesthesia should be used only when ether and chloroform are contra-indicted.* As afore-mentioned, cocaine is at times very perverse in its physiologic effects; this also holds true when it is introduced into the spinal canal. Two cases were recently reported in which a minimum dose of fifteen minims of a one-half-of-one-per-cent. solution injected into a robust man was followed by most alarming symptoms. Six hours were spent in reviving this man, before he was considered out of danger. In another case, a feeble woman, twenty minims of a fresh four-per-cent. solution were injected. The analgesia merely reached the thighs and lasted only thirty minutes. The operation, one for hemorrhoids was finished under ether anesthesia. Subarachnoidean anesthesia has advantages which time and experience alone can determine. Its advantages at this writing do not appear to outweigh its disadvantages. Improved technic and further research will undoubtedly give it a certain sphere of usefulness in the armamentarium of the surgeon.

A decided advantage over general anesthesia is that the respiratory, cardiac and renal organs are not so seriously disturbed as by the inhalation method. Pneumonia is quite common in the feeble or aged after prolonged ether narcosis. All renal trobles are aggravated and prompt *exit lethalis* is often induced. Such cases are never reported as deaths from ether narcosis. The same is true of chloroform, when administered in obscure cardiac or brain cases.

The vomiting and nausea after ether, and sometimes after chloroform, are serious factors in inducing secondary hemorrhage in abdominal sections, brain or neck operations. We admit that vomiting and other symptoms are often present in the subarachnoidean method, but these can be overcome in a great measure by careful preliminary preparation of the patient and by an intelligent technic. Still another advantage is that of the ability of the patient to confer with the surgeon during the operation in case a modification of the original plan must be made and the patient's consent is necessary. As for instance, a tumor of the breast, arm or leg may be diagnosed as being of a benign character; during the operation the discovery is made that the neoplasm is sarcomatous and consent for amputation may be required. The disadvantages are severe, such as almost uncontrollable headache, lasting sometimes a week, nausea, vomiting, vertigo, cyanosis, elevated temperature, weakness and relaxation of the sphincters sometimes lasting several days. During the operation the patient may become apprehensive and restless, and the psychological disturbance may cause decided interference. Fowler reports a case in which he had to administer general anesthesia to finish the operation for this reason.

On the whole, the reports of American operators are more favorable than those of our European colleagues. Can it be that we are more careful than they in technic? Fifteen minims of a two-per-cent. solution of eucaine were used very satisfactorily by Keen. This drug can be boiled without destroying its physiological prop-

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erties. Other observers are not so well pleased with this drug. Fowler has tried antipyrin on a stoical, illiterate Italian woman, but he cannot say that it was satisfactory. I have not learned as yet that nirvanine has been used in this way. It is ten times less toxic than cocaine and is in itself an antiseptic. Its analgesic effects are as strong as that of cocaine.

Various reasons are assigned for the many untoward complications and failures, such as stale solutions, non-sterile solutions, excessive dosage, insufficient dosage, failure to deposit the solution into the subarachnoid space, trauma by the needle of the nerves in the cauda equina, the liberation of too much cephalorachidean fluid, the liberation of none or not enough, the use of the needle if it is too large and permits the escape of cocaine solution along its sides, the use of steel needles which are apt to break, the too early removal of the needle and escape of the solution into the erector spinæ muscles.

The matter of preparing the solution has not been settled. Corning is satisfied with boiling his solution for five minutes in a test-tube. Tuffier prepares his solution in the laboratory. The cocaine is first dissolved in sterile or distilled water, then sealed in glass bulbs and subjected for one hour on two successive days to a temperature of 175° F. Goldan boils filtered water ten minutes; he then pours off the excess, leaving one dram to which he adds the cocaine and keeps the solution just below the boiling point for two minutes. This insures a sterile solution. He has met with success in 25 cases, and advises making a fresh solution for every case and not keeping it from day to day. J. Bion Bogart boils the solution two minutes and has had excellent results in a large number of cases.

Probably the sterilized cocaine solution put up by a Chicago house is the most convenient and reliable form. It is generally understood that cocaine loses its efficacy when boiled. Goldan (MEDICAL NEWS, Nov. 19, 1900) says: "After considerable experience and careful study I have arrived at the following conclusions: That the intraspinal cocainization would be superior to general anesthesia, as administered in many cases, there is no doubt. That it is superior, either in safety or advantages, to our three anesthetics properly selected and skilfully administered, I, for one, do not believe."

Tuffier says that cardiac disease is not a contraindication. M. Racoviceneau-Petesei, after an experience of 125 cases, does not believe that this method will replace ether or chloroform anesthesia.

Marx has had an experience of forty cases in obstetric practice and speaks of the method in the most flattering terms. Dr. W. Mitchell of this city prepares the solution after his own method, which is both scientific and reliable. It is strictly aseptic.

In conclusion, I hope it may not be considered bold or presumptious on my part to suggest that there is a medico-legal element in these experiments. To avoid the possibility of a suit for damages in case of accident or untoward results, it would be advisable to secure absolute consent of the patient and family, in writing or in the presence of witnesses, after explaining to them the merits and disadvantages of this procedure which carries with it no small element of risk.

CLINICAL MEMORANDUM.

A CASE OF PERONEAL NERVE-PALSY FROM MUSCULAR EFFORT.

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THE following case of traumatic neuritis of the peroneal nerve, undoubtedly due to muscular effort, is believed by the writer to be unique and worthy of detailed report.

E. L. M., male, white, age twenty-two years, United States born, commercial traveler; previously healthy; family history good. In March, 1899, while alighting from a slowly-moving train he stepped upon an inclined plane, slipped and fell. To save himself when falling he sat down, sharply flexing the left ankle and knee. At once he experienced severe pain from the knee downward in the leg, and when he attempted to stand the hamstring muscles drew the leg upward and prevented him from extending it. To use his own words, "it cramped."

He was taken in an ambulance to a hospital where it was found that, while he had suffered no fracture, the contraction of the hamstring muscles was so great as to prevent extension. Pain was very severe on the top and side of the foot and ankle. The "bottom of my foot," as he expressed it, "was all right." Power was at once lost in the extensors of the foot and ankle. Sensation to touch was also lost in the areas of pain. Hot-water bags applied to the limb blistered all of the areas over which he was anesthetic. The scars of these blisters are yet plainly seen. The blistered surface was extremely slow to heal. There was some swelling of the foot and some in the fibular region of the leg, most marked on the dorsum; considerable ecchymosis on the outer aspect of the leg from the tibiofibular articulation down to the ankle, particularly marked, however, near the attachment of the muscles on that side.

He was in the hospital four weeks, during which time the spasm of the hamstrings relaxed allowing extension of the leg. He slowly recovered the power to stand and walk with the aid of a cane.

Examination Nine Months After Injury.—He seems to be a healthy person in every way. Plan-

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tar reflexes normal. The tendo-Achillis jerk on the left side is distinctly increased. On this side he has a typical drop-foot, total inability to flex the foot on the leg and extend the toes because of the complete paralysis and atrophy of the tibialis anticus, peroneii, extensor longus digitorum pedis and extensor propius hallucis. The left leg measures one and one-half inches less than its fellow.

The atrophy and areas of anesthesia are very nicely shown in these photographs which Dr. John Nuss kindly made for me. The area of anesthesia accurately corresponds to the cutaneous distribution of the musculocutaneous, anterior tibial and other cutaneous branches of the peroneal nerve. Reaction of degeneration was demonstrated in the peroneus longus and tibialis anticus. The opinion of several very careful

FIG. 1.

The flat surface of the left leg in the photograph is in marked contrast with the rounded fulness of its fellow. It also shows the dark lines along and between the toes separating the areas between the anesthesia in the distribution of the anterior tibial and the musculo-cutaneous from the normal areas supplied by the internal and external plantar nerves.

surgeons is that he did not suffer either a fracture or a dislocation.

If one will recall the anatomy of the parts, he will remember that just behind the knee, the external popliteal or peroneal nerve passes obliquely outward and downward on the inside of the tendon of the biceps; passes between the tendon of the biceps and head of the gastrocnemius muscle, winds around the head of the fibula, pierces the peroneus longus near its origin and divides beneath the latter muscle into the anterior tibial and musculocutaneous nerves.

It seems only reasonable to suppose that the sudden and powerful muscular action intended to prevent his falling resulted in a severe contusion of the nerve by the contraction of the peroneus longus, or, which is still more likely, the nerve was torn along with the muscle, the evidence of which latter injury appeared later in the extensive ecchymosis which took place, and which was most marked about the attachment of the peroneii.

Careful examination of the literature of injury and traumatic neuritis of the peroneal nerve reveals no case which possesses like origin, *i.e.*, muscular effort.

Fractures of the head of the tibia and fibula or dislocation of the latter are not infrequently responsible for quite a number of injuries of the peroneal nerve and its branches, as is attested by Perrin[1], Duplay[2], Callender[3], Terrier[4], Bowlby[5], Verneuil[6], Berger[7], Smith[8], Szuman[9] and Watt[10]. Hogarth[11] has reported two cases due to direct blows received while playing football. In neither of his cases was there fracture or dislocation. It is not impossible that in one of his cases the injury was laceration of the nerve due to muscular effort, since he clearly states that there was separation of the muscular tissue.

FIG. 2.

This side view shows the area of complete anesthesia on the leg which has sensibly narrowed from a point but little below the head of the fibula; showing that the injury took place above the origin of the lateral cutaneous branch of the peroneal nerve.

In conclusion I can but echo the observation of Hogarth, that when we consider the exposed position of the peroneal nerve it is remarkable that it so infrequently suffers injury.

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MEDICAL PROGRESS.

Tuberculosis in Prisons.—While so many are interesting themselves and others in the State care for consumptives, it is strange that so little attention has been paid to State institutions already existing, such as prisons and reformatories, where no pretense is made to control the spread of this disease. S. A. KNOPF (*Med. Rec.*, March 2, 1901) shows what an important factor in the death-rate tuberculosis has become even in such institutions as the Sing Sing Penitentiary and the Elmira Reformatory. In spite of this fact, even ordinary precautions are seldom taken to isolate the disease. The prisoners mingle indiscriminately, no spit-cups or even spittoons are provided, as a rule, and a well person is frequently compelled to live in a small cell with a tuberculous prisoner. The sources of possible infection in such an institution are, of course, innumerable and it is astonishing that health boards have not taken more active steps toward preventing the dissemination of this scourge. To regard the disease as a blessing among the prisoners is not only most unjust to the unfortunates but also to the public, for many of the former will later be freed and prove a nuisance to their associates or perhaps become burdens to society on account of their invalidism.

Roentgen-Ray Treatment of Tuberculosis.—Following upon the success which has attended the use of the X-ray in cases of lupus, numerous efforts have been made to destroy the tubercle bacilli in other parts of the body, especially in the lung. J. RUDIS-JICINSKY (*N. Y. Med. Jour.*, March 2, 1901) prepared cultures of several species of bacteria, including diphtheria, tubercle bacilli, anthrax, etc., and found that the effect which the X-ray had depended largely upon the reaction of the culture medium. Those grown upon an alkaline medium seemed to thrive under the stimulus of the rays, but those in acid media were destroyed. Rabbits, inoculated with tubercle bacilli and whose secretions were rendered alkaline soon died of tuberculosis. Others inoculated from the acid media, having been in the first stage of tuberculosis, were then exposed to the intense irradiation daily and were in good condition at the end of two years. The same treatment has been used by the author in many early cases of pulmonary tuberculosis and in nearly every case marked improvement has taken place. Other methods of treatment have been combined with this, so that it is impossible to conclude that the cures were due solely to the X-ray exposures.

Formaldehyde in Suppurative Otitis Media.—In those cases of otorrhea which are susceptible of cure by syringing with an antiseptic solution, H. O. REIK (*Maryland Med. Jour.*, January, 1901) believes that formaldehyde will accomplish the good result with more certainty and in a much shorter time than any other antiseptic now employed. In thirty-one chronic otorrheas the greatest length of time required to bring about a cessation of the discharge by the use of formaldehyde was twenty-eight days, while the average time was nine days. Only four cases were not improved. In sixteen acute cases the average time required was five and one-half days. The evident advantages which formaldehyde has over boracic acid and bichloride are : (*a*) Its bactericidal power compares favorably with that of bichloride or any other agent; (*b*) it can be entrusted to any patient with safety; (*c*) it has great rapidity of action and also a stimulating effect upon the local tissues. As to the manner of using formaldehyde, Reik has found it most satisfactory to use one dram of the commercial solution of formaldehyde (40 per cent.) in one pint of boiled water, and to direct that the ear be syringed twice daily, using at least a pint of the mixture at each sitting. This is equivalent to a 1-300 solution of the formaldehyde gas. Stinging sensations usually follow its use, but the amount of discomfort is slight, and lasts only a few moments. In sensitive ears a weaker solution can be used.

Hemorrhage from Peritonsillar Abscess.—Severe hemorrhage from quinsy is rather rare, but, on account of its peculiarity in usually being secondary to ulceration, the following case of W. F. CHAPPELL (*N. Y. Med. Jour.*, March 2, 1901) is of interest. This patient presented an ordinary case of quinsy, the abscess pointing in the middle of the posterior pillar. A small longitudinal incision was made and the pus evacuated. Four days later, the patient had a severe pain in the throat and then lost about six ounces of blood. He had two similar hemorrhages during the next five days. A large incision was then made through the anterior pillar to the cavity, which was packed with iodoform gauze. There have been ten cases reported previously and all seem to indicate that the hemorrhage is due to the ulceration of the ascending pharyngeal or the internal carotid artery. The treatment should, therefore, be to incise the abscess early, maintain free drainage to avoid ulceration and, if the hemorrhage occurs, to adopt the method described or ligate the carotid artery.

Ureine.—At the International Medical Congress, W. A. Moor read an account of the Discovery of Ureine, the Principal Organic Constituent of Urine and the True Cause of Uremia. So satisfactory was his explanation of the methods of his work that A. F. CHACE and W. J. GIES (*Med. Rec.*, March 2, 1901) have endeavored to learn the truth of his statements, and have become thoroughly convinced that his conclusions were not founded upon scientific experimentation. They have found that it is not a chemical individual, but a mixture

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containing several of the organic substances and a considerable proportion of inorganic salts ordinarily found in normal urine and that its toxicity can be referred to some of these normal constituents. Dr. Moor's method of preparing urine fails to eliminate potassium salts and many normal basic alkaloidal bodies which are known to possess very toxic properties.

Plague Antitoxin.—Immunity to a certain disease may be artificially conferred either by injecting into a person serum taken from a patient or an animal that has lately acquired the disease; or the person may be directly inoculated with the attenuated germs of the malady or their toxins, and thus develop a mild form of the disease, not fatal, but sufficient to stimulate the manufacture of the immunizing substance. C. B. STEWART (*Indian Med. Rec.*, Jan. 16, 1901) refers to the work which has been done to obtain a successful antitoxin for the plague. Yersin's serum is based upon the same principle as the diphtheria antitoxin, the horse being the animal in which the antitoxin is developed. This serum is curative and also used as a prophylactic agent, but the immunity conferred is very short—only about fifteen days. Haffkine has lately developed a method by which the person may be given the plague in a mild form and thus obtain an immunity of a much longer duration. A sterilized culture of the plague microbe in broth is used as a vaccine. The microbe is obtained fresh from a case of plague and incubated in flasks of broth at 70° to 80° F. After being tested and found pure the culture is sterilized by heating to 65° C. for one hour and a small quantity of carbolic acid is added. These dead microbes, with the broth which contains considerable toxic properties, are injected into the person in gradually increasing doses, until the antitoxin has been sufficiently developed to immunize the individual.

Tetanus Antitoxin.—In determining the value of antitoxin in tetanus, W. WILMS (*Münch. med. Woch.*, Feb. 5, 1901) says that the following two facts must not be lost sight of: (1) That the treatment is not begun later than thirty hours after the onset of the first symptoms; (2) that the amount used at once is not less than 100 units. In view of the fact that as many as 60 per cent. of cures have been recorded, the author investigated the records of the Leipzig hospitals to discover that the antitoxin proved a failure in nearly all cases. This leads him to conclude that in all previous statistics many chronic cases of tetanus have been included and that in these the results have been much more satisfactory. The conclusions of Behring to the effect that the mortality could be reduced by 15-20 per cent. could thus not be verified.

Plasmodium Malariæ.—Our present knowledge of the causative agents of malaria is summed up in an interesting article by B. GALLI-VALERIO (*Therap. Monatshft.*, Feb., 1900). After an account of the history of the plasmodia and the various forms found in the lower animals, he describes the human parasites as follows: The cause of tertian fever may occupy the entire red blood-cell, has rapid, ameboid movements and fine granulations and completes its cycle within forty-eight hours, forming twelve to twenty spores. That of quartan fever may also replace the entire red cell, but has slower movement and coarser pigment and a cycle of seventy-two hours' duration with a division into six to fourteen spores. The third form, the parasite of pernicious fever, occupies only one-fourth to one-fifth of the cell, is capable of very rapid movement, is ring-shaped when at rest, shows very fine, hardly-perceptible pigment and completes its cycle within forty-eight hours, chiefly in the internal organs. The inoculation of any one of these three forms will always cause a fever of the corresponding type. The fever coincides with the endoglobular phase in the development and may be due to a toxin, though this has not as yet been isolated. The development of the parasite outside the human body has been studied in the stomach and intestines of the mosquito. Twelve hours after this has taken up infected blood, the spermoid which has penetrated the female yields fertilized bodies which migrate between the epithelial cells after forty hours. Spindle-shaped forms develop in these, which, after bursting the limiting capsule, fall into the body-cavity and then, by means of the circulation, reach the salivary glands where they are stored up in large numbers. The most important transmitters of malaria are *Anopheles claviger, bifurcatus* and *superpictus*. Though a specific for the treatment of malaria exists, the tendency of the present day is to destroy these insects by the cultivation of certain fish and by the use of petroleum and aniline colors. But much can be done by protecting the windows of houses in infected regions with fine wire-netting.

Chloretone.—A. A. STEVENS (*N. Y. Med. Jour.*, Feb. 23, 1901) believes chloretone to be a valuable hypnotic in doses of ten to twenty grains, acting within a half to one hour, and seldom causing any ill effects either upon the stomach, the heart or general condition. It loses its power when used continuously, however, and in insomnia due to pain it is of little value. In mental excitement it is inferior to hyoscine and paraldehyde, and is not usually successful when the fever is above 102° to 103° F.

Convulsions in Scarlet Fever.—Nephritis is one of the most frequent severe complications following scarlet fever and is, no doubt, in most cases the cause of convulsions. H. E. HAYD (*Med. Rec.*, Feb. 23, 1901) reports such a

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case in which three weeks after the scarlet fever began, with urine of a normal specific gravity and very little albumin and no casts, convulsions suddenly developed. Urea examinations should always be made in all suspected cases, as the specific gravity is not a reliable index. He believes that only the most digestible foods should be taken and. if possible, only milk, for gastric and intestinal fermentation alone may determine a convulsion if the kidneys are deficient in function. An abundance of water and nutrient enemata are preferable if there is much gastric irritability. To stimulate the kidneys, hypodermoclysis of two or three pints of decinormal salt solution is very valuable. The introduction into the bowels of a number of gallons of water ranging from tepid water to water at 80° F., if there is much fever, should be employed once or twice a day. Strychnine and digitalin are very valuable. Chloral and antipyrine, gr. v aa., by rectum and repeated when necessary, are very efficacious in assisting in the control of convulsions.

Treatment of Erysipelas.—N. G. KEIRLE, Jr. (*Phila. Med. Jour.*, Feb. 16, 1901) has had such success in the treatment of erysipelas by the following method that he no longer fears the disease. Of thirty cases, not a single one failed to yield to treatment in a few days, usually three or four. The affected area was first *enclosed* in a painted ring of tincture of iodine. The ring should be from two to three inches from the margin of the reddened area, and a sufficient number of coats should be applied to cause a slight desquamation of the upper layers of the skin. At the same time the whole of the surface enclosed in the ring should be covered with an ointment of ichthyol, about one dram to one or two ounces of vaseline. This should be covered with a piece of gauze and a hot stupe applied and changed every four hours. At the end of twelve hours the ointment should be washed off and a fresh coat applied, and, if the iodine has not had a sufficient effect, one or more coats should be applied. As is stated, three or four days of this treatment stopped the disease, the inflammation not crossing the painted ring.

Transmission of Infectious Diseases.—In the treatment of contagious disease the most important indication is to prevent its spread to other members of the family or community, and in order to successfully control epidemics, the means by which the disease is transmitted must be most thoroughly and scientifically sought out. The Health Department of New York City, so favorably situated, has undoubtedly taken the lead in such investigation and the results which A. H. DOTY (*Med. Rec.*, Feb. 23, 1901) publishes are both valuable and practicable. One of the points upon which he lays especial stress is that the clothing actually worn by a well person, even after thorough exposure to the contagion, is seldom the means of communication. He cites much evidence to prove this, mentioning how infrequently the general practitioner carries the infection from one patient to another. In the epidemics of typhus fever and smallpox (1892 and 1893) there were 714 cases of the former and 842 of the latter disease. There were about 75 health officers frequently coming in actual contact with these patients, but, although 14 contracted typhus fever and seven died, in no instance did these officers transmit the disease to their friends or relatives. The greatest source of danger probably exists in not recognizing the mild and ambulant cases of contagious disease which may unintentionally transmit to many a more virulent type of the same malady. Careful investigation will almost always reveal the fact that there has been direct actual exposure to some infected person. The value of the knowledge and appreciation of such facts is, of course, most apparent. Every case of even suspected contagious disease must be isolated and carefully watched, and all the clothing and effects sterilized, preferably by the use of steam. The latter can usually be done only when the health department has a special apparatus. On the other hand, the wanton destruction of property which has merely been exposed to the diseased, especially cargoes from infected ports, is undoubtedly useless and most detrimental to commerce.

Periodical Insanity.—A. R. DEFENDORF (*Phila. Med. Jour.*, Feb. 16, 1901) discusses the symptoms, the frequency of occurrence, the different forms, the causes, and the prognosis of periodical insanity, and cites two cases in detail, one of the maniacal and one of the depressive form. In conclusion he says (*a*) that periodical insanity is a mental disease characterized by a definite symptomatology, course and outcome; (*b*) it, in point of numbers, is one of the most prominent psychoses; (*c*) the symptoms are sufficiently characterized to permit a differentiation from other forms of mental disease in the first attack, (*d*) and allow the forecast of the whole course of the disease, *i.e.*, (*e*) recurrence of attacks throughout the life of the individual, mostly of the character of the first, (*f*) with lucid intervals of varying length from weeks to years, except in very small percentage of cases, (*g*) without a tendency to mental deterioration, except in cases in which the attacks have been long, frequent, and severe, and even then it is of a light grade.

Typhoid in South Africa.—In his report on the Military Hospitals, J. W. SMITH (*Med. Chron.*, Feb., 1901) says that the average of troops serving in South Africa during the year was 220,000, of whom one in fourteen was attacked by enteric fever and one in sixty died. Thus 7.11 per cent. acquired the disease and

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the percentage mortality was 23.26. The number of cases therefore was over 15,000, but the death-rate corresponds very favorably with that of the London hospitals. Pneumonia and hemorrhages were rare complications, but perforation was present in about one-third of the fatal cases.

Gall-bladder in Typhoid.—The frequent occurrence of gall-bladder inflammation during or after an attack of typhoid has led to considerable effort to determine the relation between the two conditions. R. W. MARSDEN (*Med. Chron.*, Feb., 1901) has reported a case of typhoid with perforation of the gall-bladder, peritonitis and death due to ulcerations, in which the bacillus coli communis seemed to be the principal offender. The symptoms were characteristic, the Widal reaction was positive and a few small ulcerated Peyer's patches were found in the lower ileum. Typhoid bacilli were also present in the gall-bladder in moderate numbers, and he thinks are frequently the efficient cause of cholecystitis. The most important passage of these bacilli is probably through the blood, the liver, and the biliary ducts. On account of the frequency of typhoid infections of the gall-bladder, Chiari has suggested that the pouring of the bacilli with the bile into the bowel may give rise to a relapse, thus accounting for the possibility of a reinfection and relapse being due to the stimulating action of solid food upon the flow of bile.

Dilution of Milk for Infants.—In substituting cow's milk for woman's milk the chief source of trouble is usually the presence of a large percentage of proteids which are difficult to digest. A great difference of opinion exists as to whether the cow's milk should be diluted simply with water or with a cereal gruel. H. D. CHAPIN (*N. Y. Med. Jour.*, Feb. 23, 1901) claims that, no matter how much the milk is diluted, the casein of cow's milk forms hard, leathery curds when water alone is used; but, when a digested or dextrinized wheat-flour gruel is employed, the curds are soft and will easily pass through a small-meshed sieve. To prepare this gruel two tablespoonfuls of wheat or barley-flour are beaten to a thin, smooth paste with cold water. A quart of boiling water is added and the gruel is boiled for about fifteen minutes. A preparation of diastase is then added, made by soaking malted barley grains in water. The gruel is stirred until it becomes thin and watery. When this diluent is added to cow's milk the formation of large curds is practically impossible, and the digested starch which it contains is one of the forms of nutriment that are known to be rapidly absorbed and to promote the secretion of the digestive juices.

Acute Leucemia.—A peculiar case of the rare disease, acute leucemia, is described by A. DENNIG (*Münch. med. Woch.*, Jan. 22, 1901). The patient came to the hospital with the symptoms of an advanced chlorosis and was treated for some time with Blaud's pill. Since she did not improve, a more careful examination was made of the blood, with the result that a steadily-diminishing number of red and a gradually-increasing number of white cells were found, together with the elements peculiar to acute leucemia. One hour before death, the relation of white to red cells was as one to two, the lymphocytes predominating. Characteristic symptoms, such as hemorrhage into the skin and from the mucous membranes and enlarged spleen and lymph-nodes, appeared only late or not at all. The bone-marrow on autopsy showed no macroscopic evidence of disease, in which respects the case differed from all others previously described. It was only the microscopic examination of the blood and the marrow, together with the rapid decline of the patient which gave a clue as to the true nature of the disease.

Strabismus.—After reviewing the various causes of heterotropia, J. H. WOODWARD (*Med. Rec.*, Feb. 16, 1901) urges that in a case of paralytic strabismus a thorough determination of the cause and extent of the lesion should be made by a competent person in order that immediate treatment may secure the improvement which is sometimes possible, syphilis and rheumatism being the most frequent amenable causes. Advancement of the paralyzed muscle may be considered in incurable cases. In non-paralytic strabismus the proper correction of the errors of refraction is the first indication, but only in a small percentage of cases glasses alone are sufficient. Operation is usually necessary, but it must be carefully and fully ascertained which is the offending muscle and whether it is overacting, contractured, overstretched or enfeebled. The one should be weakened by tenotomy, the other strengthened by the advancement of its insertion. Treatment of heterotropia should begin as soon as a child is old enough to wear glasses, and operations need not be postponed until the sixth or seventh year. A persistence of twenty years or more does not, however, contra-indicate interference.

Pathology of Blood-producing Organs.—C. S. ENGEL (*Münch. med. Woch.*, Jan. 22, 1901) asks whether constant relations exist between the condition of the blood and that of the bone-marrow in conditions in which these are pathologically altered. While normally the blood contains only one type of erythrocyte, two are found in the healthy bone-marrow, one resembling the normal red cell and called orthochromatic, and the other, polychromatic, with paler protoplasm. In diseased conditions the proportion of both varies considerably, as does also the relative amount of the various leucocytes, not however within definite lines which would allow a clue as to

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the nature of the disease to be formed. The author has, however, found the following four conditions to be fairly constant: (1) Normal marrow, where the epiphyses contain red marrow, the diaphyses, fat. In the former both ortho- and polychromatic normoblasts are found. The blood only contains orthochromatic erythrocytes. (2) Insufficient marrow. Here the size and shape of the red cells are normal, but they are frequently much increased in number. The following changes may be found in the blood: (*a*) a normal number of red cells with diminished hemoglobin; (*b*) a diminished number of red with normal or diminished hemoglobin; (*c*) the presence of pathological cells, such as ortho- or polychromatic normoblasts or polychromatic erythrocytes; (3) metaplastic marrow, where the yellow marrow is partially or entirely red, and where megaloblasts and metrocytes, the latter a large orthochromatic cell with relatively small nucleus, are found. In the blood there are often megaloblasts and regularly macrocytes. (4) Aplastic marrow, a rare condition in which the red marrow is converted into fat and ceases to be hematopoietic. The blood contains no pathological cells, but red cells, and granular leucocytes are diminished without being replaced.

Failure of Cardiac Compensation.—In forming a proper estimate of the strength of cardiac action too much attention is usually paid, no doubt, to the valvular lesions as evidenced by the various murmurs and not enough thought laid upon the condition of the muscular walls. Pathologists have recently investigated more thoroughly the myocardial changes and, although their opinions still differ considerably, it is safe to say that a heart which has organic valvular disease no longer possesses a normal myocardium, since the latter has been involved in its parenchyma or interstitial tissue, or both, in various foci. Hypertrophy compensates for a time, but parenchymatous changes finally result in such weakening of the heart-walls that the reserve strength is lessened and an extra strain disturbs the equilibrium. M. MANGES (*Med. Rec.*, Feb. 16, 1901) enumerates the causes of failure of compensation as follows: (1) Diminished general nutrition; (2) disturbance of local nutrition of the heart; (3) increased work of the heart; (4) functional cardiac disorder; (5) effects of improper treatment. Under the first heading may be classed not only those acute infectious cases and the many chronic systemic disorders, but also those ill-advised people who undergo reduction cures at Carlsbad and other resorts and thus frequently sacrifice cardiac compensation. Local nutrition is controlled by the coronary arteries and an arteriosclerosis situated here can be surmised only when part of a general arterial affection. Muscular overstrain, prolonged and violent athletic exercises frequently cause irreparable harm. As Schroetter suggests, people should exercise with their brains, as well as with their muscles. Purely functional disorders, mental excitement or emotion, may be of such serious import that the term "died from a broken heart" may be justly applied. Lastly the presence of a murmur does not mean that digitalis is needed, as so many physicians seem to believe. It is usually much better to avoid cardiac drugs unless their indication is clearly observed.

Liverpool School of Tropical Medicine Report on Yellow Fever.—An abstract of the interim report by H. E. Durham and the late W. Myers (*Brit. Med. Jour.*, Feb. 23, 1901) contains the following conclusions: (1) Sufficient search reveals the presence of a fine small bacillus in the organs of all fatal cases of yellow fever. We have found it in each of the fourteen cadavers examined for the purpose. In diameter the bacillus somewhat recalls that of the influenza bacillus; seen in the tissues it is about 4 micra in length. (2) This bacillus has been found in kidney, in spleen, in mesenteric portal and axillary lymphatic glands, etc., taken from yellow-fever cadavers directly after death. In the contents of the lower intestine apparently the same bacillus is found often in extraordinary preponderance over other micro-organisms. Preparations of the pieces of "mucus," which are usually, if not always, present in yellow-fever stools, at times may almost present the appearance of "pure culture." (3) Preparations of the organs usually fail to show the presence of any other bacteria, whose absence is confirmed by the usual sterility of cultivation experiments. (4) It is probable that this same bacillus has been met with but not recognized by three other observers. Dr. Sternberg has mentioned it; and it has also recorded the finding of similar organisms in material derived from Drs. Domingos Freire and Carmona y Valle; but he did not recognize its presence frequently, probably on account of the employment of insufficiently stringent staining technic. (5) The most successful staining reagent is carbolic-fuchsin solution (Ziehl), diluted with 5-per-cent. phenol solution (to prevent accidental contamination during the long staining period) immersion for several hours, followed by differentiation in weak acetic acid. Two hours' staining period may fail to reveal bacilli, which appear after twelve to eighteen hours. The bacilli in the stools are often of greater length than those in the tissues, and they may stain rather more easily; naturally the same is true of cultures. To facilitate matters at our last two necropsies a method of sedimentation has been adopted. (6) Pure growths of these bacilli are not obtained in ordinary aerobic and anaerobic culture tubes. (7) Some pure cultures have been obtained

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by placing whole mesenteric glands (cut out by means of the thermocautery) into broth under strict hydrogen atmosphere. Investigations into the necessary constitution of culture media for successful cultivation are in progress. (8) Much search was made for parasites of the nature of protozoa. We conclude that yellow fever is not due to this class of parasite. Our examinations were made on very fresh organ juices, blood, etc., taken at various stages of the disease, with and without centrifugalization, and on specimens fixed and stained in appropriate ways. We may add that we have sometimes examined the organs in a fresh state under the miscroscope within half an hour after death. (9) The endeavor to prove a man-to-man transference of yellow fever by means of a particular kind of gnat by the recent American Commission is hardly intelligible for bacillary disease. (10) We think that the evidence in favor of the etiological importance of the fine small bacillus is stronger than any that has yet been adduced for any other pretended "yellow-fever germ." At the same time there is a much further work to be done ere its final establishment can be claimed. The acquisition of a new intestinal bacterium would explain the immunity of the "acclimatized."

THERAPEUTIC HINTS.

Nocturnal Incontinence.—BOMMIER classes his patients as follows: (1) Those who dream; (2) the apathetic, sleepy, and idle; (3) the ill-developed. The first class of patients have polyuria, are nervous, urinate frequently in the day time and at night dream that they are to urinate. Such require tonics, warm baths or douches, gradually made colder, and belladonna, antipyrin, gm. 1.0-4.0 (gr. xv-3i), chloral, gm. 0-30-1.0 (gr. v-xv), potassium bromide, gm. 1.0 (gr. xv), or extract of hyoscyamus, gm. 0.03 (gr. ½), are recommended. In the second class there is atony or atrophy of the sphincter, and there may be leakage during the day. Such patents sleep profoundly, so that the muscles become much relaxed. They need to make sleep less deep by small amounts of tea or coffee, to reduce the fluids taken at the evening meal, to be awakened at a fixed hour, best between midnight and one o'clock, and to be occasionally punished. Strychnine or fluid extract of rhus aromatica, gtt. v-xx, may be administered, though the latter's action is not yet well known. Faradism may be of use. The third class includes boys with phimosis, non-descent of testicle, congenital hernia, preputial adhesions and atresia of the meatus, and girls with adhesions of the clitoris, or between bladder and uterus so that the vesico-urethral orifice is drawn open, or with anal fissures, etc. In these patients, try to remove the cause, for medicine is of little or no use.

Silver Nitrate in Dermatology.—After trial of many of the recently introduced chemicals in eczema, J. C. DUNN (*Penn. Med. Jour.*, Jan., 1901) has returned to silver nitrate, using it in from one-per-cent. solution in acute forms, to the solid stick in old and thickened patches. In psoriasis, erythema, acne, especially the pustular form with marked erythema or inflammation, herpes zoster, the various tineæ, contagious impetigo, and lichen planus; it is at least as effective as chrysarobin or salicylic acid, and is often better borne. It is sedative, astringent, antipruritic and seems to have an alteratve effect on the nutrition of the skin.

Nasal Neurosis.—One sees women having frequent attacks of sneezing both summer and winter, a thin watery discharge, and a tendency to obstruction of a nostril, sometimes one side sometimes the other. On examination there is no hypertrophy, no permanent obstruction, but simply a turgescence of the membrane over the turbinate. Such are treated by SAMUEL B. DABNEY (*Pediatrics*, Feb. 15, 1901) with

℞ Ac. arsenosi.....gm. 0.06 (gr. 1)
Strych. sulph.....0.04 (gr. ⅔)
Ext. bellad. .....
Zinc. phosphid., aa.....0.25 (gr. iv)
Ext. gentian., q. s.....ad pil. No. XX.

One three times a day, and the local application of menthol.

Phototherapy.—LEREDDE has used the light from an arc-lamp in parasitic and other skin-diseases. The chemical rays kill bacteria and stimulate the cells of the skin, and are applied by condensing lenses for an hour or more twice a week. Occasionally erythema and pigmentation result. The diseases treated with success are lupus, acne vulgaris, acne rosacea, rhinophyma, alopecia areata, some cases of epithelioma, and sycosis.—*Bulletin général de Thérapeutique.*

Gonorrhea in the Female.—ALFRED ROULET (*Ann. Gynec. and Ped.*, Feb., 1901) cleanses the vulva with bichloride solution, 1-10,000, or boric acid, 4 per cent.; keeps patient in bed, and gives potassium citrate, gm. 0.7 (gr. x), every two hours. A solution of protargol, gm. 0.06-0.7 to 4.0 (gr. i-x to 3i), is applied to the urethra, and a 2-per cent. solution swabbed or sprayed over the vaginal walls. At bedtime the following suppository is used if necessary:

℞ Protargol..... .....
Europhen, aa., gm. 0.7 (gr. x).
Ol. theobrom., q. s., ad. suppos. No. X.

Neuralgic Dysmenorrhea.—To treat gout rheumatism, malaria, anemia, or other constitutional dyscrasia, apply a capsicum or mustard plaster over the painful area, and do not give morphine, says E. C. UNDERWOOD.—*Annals of Gynecology and Pediatry.*

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SATURDAY, MARCH 9, 1901.

RECENT OBSERVATIONS ON DIPHTHERIA.

THE clinical features of diphtheria have been so considerably modified within the last few years by the use of antitoxin that the classical description of Bretonneau must, indeed, sound a strange note to those whose experience with this disease dates back hardly more than five or six years. Any recent careful study of this curse that struck terror to the hearts of our fathers must then be not only of special, but general interest. An extremely interesting paper just published by Dr. Fred Grant Burrows (*American Journal of Medical Science,* February, 1901) summarizes the results of the writer's experience with 2,093 cases of diphtheria treated at the Boston City Hospital from August, 1899, to a corresponding period in the following year.

From being the most fatal of the acute infectious diseases, with a death-rate of from 30 to 50 per cent., its mortality has so greatly decreased that it is scarcely a more important factor in the total death-rate of Boston than typhoid fever. The last and Twenty-Seventh Annual Report of the Board of Health of that city shows a mortality of 9.7 per cent. Of the 2,093 cases treated, 131 proved to have a mixed infection and 1,962 were uncomplicated. Among the latter 240 died, giving a mortality-rate of 12.23 per cent.; but of those that died 69 were moribund when admitted and died within twenty-four hours of admission.

The majority of those admitted were females, but no noteworthy difference in the death-rate of the sexes was observed. Most of the patients were under fifteen years of age. For these the death-rate was 14 per cent.; and for those above that date it was only 2.85 per cent. An examination of the tables given by Dr. Burrows shows a decreasing death-rate from infancy to adult life.

A study of the membrane distribution shows that, although quite variable, both tonsils were generally the seat of election; occasionally the uvula, posterior pharyngeal wall, palate, lips, tongue, epiglottis, cheek, external auditory canal, eye, labiæ majoriæ and minoræ, nostrils and skin, were affected, sometimes alone or associated with membrane-formation elsewhere. It is important to point out in this connection that the diphtheritic membrane merely represents in a general way the amount of local reaction wherever it may be situated; but its amount or distribution bears no definite relation to the quantity of poison absorbed and the consequent existing toxemia—often enough severe and even fatal cases of diphtheria are seen without any membrane whatsoever. It is therefore, as Dr. Burrows says, but one of the guides in the administration of the antitoxin.

There is one extremely important point worthy of mention in connection with the bacteriological diagnosis of the disease The observation is, however, by no means new, being perfectly well known to students of diphtheria. Some of the worst cases, studied by the writer, with thick and extensive false membrane, persistently gave negative cultures until the membrane began to disappear, when it became possible to take cultures from the mucous membrane of the throat, and many diphtheria bacilli would be demonstrated. With regard to the bacteriological diagnosis, experience has shown it invaluable and necessary, but, as is properly stated in this paper, it is often impossible to wait for bacteriological confirmation. In such cases the clinical picture should be the basis of judgment and, at all events, when in doubt experience has shown that it is far safer to administer the antitoxin and otherwise treat as a case of diphtheria.

Over one-half of the cases showed evidence of cardiac disturbance at some time during the course of the disease; usually it proved slight

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and transitory. Murmurs were not uncommon. Irregularity of heart-action was also frequent and, as noted by others, most conspicuous in those cases in which there has been nasal diphtheria. Rotch more than ten years ago explained this by pointing out the extremely abundant supply of lymphatics to the nasopharynx.

A little over twenty-eight per cent. of the cases in which the urine was examined showed albumin, in no instance above one-fourth of one per cent. Nephritis was uncommon.

In this series of 1,962 cases, 337 had laryngeal stenosis; of this number, 213 were intubated and 124 were relieved by the antitoxin without intubation. In the laryngeal cases the death-rate was 31.4 per cent. The early cases without operation showed a mortality of only 8 per cent., whereas in the operative (and late) cases it jumped up to 45 per cent. Dr. Burrows strongly advocates the abandonment of primary tracheotomy in the treatment of simple diphtheritic laryngeal stenosis; in this he is supported by McCollum of Boston and others. Among the complications observed were middle-ear disease (3 per cent.), palatal, oculomotor, and deltoid paralyses, and hemiplegia in one instance. The patellar reflexes were often found diminished. On the whole, the nervous complications were fewer than before the administration of antitoxin. Of the cases that died 71.6 per cent. succumbed in the acute stage of the disease; the others died in the secondary stage, or later of some other and complicating condition.

As already shown, the amount and distribution of the membrane cannot be taken as an index upon which to base the administration of antitoxin; in this the experience of others was again conclusively demonstrated by the experience at the Boston City Hospital. At the hospital 4,000 unit-doses are given and repeated every four hours as long as may be necessary; in a few very severe cases this amount was even exceeded. The earlier the administration of the antitoxin, the better the results.

PRIVATE SANATORIA FOR CONSUMPTIVES.

THE power of an idea is stronger than any power of legislature. It would be impossible to legislate consumption out of existence, for the reason that there are too many consumptives for the State to take care of. Therefore there is the greatest need for individualized effort on behalf of charitable and philanthropic people for the suppression of the disease. The effort that various societies are making to protect the members of their own community from spreading the disease is one of the best expressions of the sentiment of common sense and practical hygiene of the age. In Dr. Knopf's article published in this week's issue of the MEDICAL NEWS, the situation is plainly set forth. It is the incipient cases that must be treated by rest and fresh air, and it is the personal friends of the poor, the workers in clubs, settlements and tenement neighborhoods, who must report the cases, get them out of their environment, and save their lives and protect their families from infection. By the increase of societies for the establishment of sanatoria for tuberculosis patients among the poor the end may be slowly accomplished, and the crowded quarters of large cities will gradually be cleansed of this, the world's plague. Nothing, however, but sentiment arousing citizens to a sense of their personal danger and personal responsibility will do this. Therefore, we look with the warmest approbation upon such societies as that of the Stony Wolde Sanatorium; and upon every effort to bring the social aspects of the disease before Society.

EXTIRPATION OF THE HYPOPHYSIS CEREBRI.

IN recent years the attention given to the functions of the thyroid gland, physiologically, caused at the same time, both on account of its peculiar anatomical situation, of the seeming impossibility of operation upon it, and also of its mysterious functions, an intense interest to be taken in the hypophysis cerebri.

It has been observed that stimulation of the hypophysis produced changes in the blood-pressure and the conclusion was drawn that this gland produced a secretion which affected the distribution of the blood through the brain. Observers obtained an extract of the gland which upon intravenous injection regularly caused changes in blood-pressure. Mairet and Bosc are said to have produced an increase in the number of epileptic attacks in affected persons by means of this extract. Some of the extravagant ideas relating to the hypophysis have been sceptically received and in order to verify what there is of truth in them F. F. Friedmann and Otto Maas describe the operation of extirpation undertaken by them on animals in the *Berliner klinische Wochenschrift* (Dec. 24, 1900).

Previous operations had always resulted in the

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quick death of the animal, and this was attributed to the fact of the part necessary to life played by this gland. The authors describe their operation as follows. The animal (in all their cases cats were used) is anesthetized with ether, the extremities and head immovably fixed. The jaws are opened as wide as possible and the lower mandible bound in this position. Then the tongue is pulled out as far as possible and kept in position by means of a clamp, leaving the hard and soft palate. After clearing the mucous membranes, an incision is made exactly in the median line of the middle third of the soft palate. The edges of the cut are well retracted and the wound sponged free of blood. This enables one to perceive the base of the skull at the body of the sphenoid bone. A second incision into the bone exactly in the median line and retraction of the periosteum and mucous membrane lay the bone itself open to view. In the center of this cut a small bleeding cavity is exposed which is enlarged by means of a spiral bore, which finally penetrates the bone absolutely in the median line. This opening is gradually enlarged, small pieces of bone being carefully nipped from the posterior border. The porous bone on either side is gently crowded back by means of a bone chisel and the slight crushing which ensues is sufficient to allay the venous hemorrhage which has been taking place up to this time from these porosities. Sufficient clearing having been accomplished, the hypophysis covered by dura is seen, a grayish white mass lying directly at the opening. The dura is incised in the exact median line and the incision must be superficial or else hemorrhage from the pia will result. A blunt sound is introduced into the dura incision and the membranes surrounding the hypophysis gradually separated thereby from the mass itself. Finally, and with great care the separation of the hypophysis from the base of the brain is carried out in the same way and the hypophysis is lifted out with a fine forceps. The cerebrospinal fluid which, mixed with blood, slightly oozes out must not be removed as its presence hastens the clot-formation. The incision in the soft palate is then closed with four or five silk sutures. The great danger in the operation is that the cavernous sinus may be injured by any incision not made exactly in the median line—a *faux pas* succeeded by inevitable death.

In eighteen cases the authors were successful in their operation. The animals were killed three or four months afterward, but a few died earlier from septic infection and hemorrhage. In one animal, in which the entire gland was removed, the result was perfect. The animal regained full health and strength and was in full possession of all its faculties. In neither the cases of total extirpation nor in those of partial extirpation was a gain or loss of weight characteristic. These few facts enable us, however, to declare emphatically that the hypophysis cerebri is not a vital organ. If it possesses any important functions at all, these latter must be carried on by other organs after extirpation of the hypophysis. Postmortem examination revealed no change in any other organ which could be held responsible for the loss of the hypophysis. The examination of the urine of the animals operated upon gave no trace of albumin. Glucose was present, however, in all of the cases. Those that lived sufficiently long after the operation nevertheless gave a constantly-decreasing sugar reaction until, finally, no trace could be found. The glucose was probably the result of the ether narcosis.

Finally, it may be remarked that this operative procedure might be serviceable in human beings, not only for the rare hypophyseal tumors supposedly related to acromegaly, but also for inflammations and other pathological conditions situated at the base of the brain. Drainage of the exudate in tuberculous meningitis is a case in point. The authors operated on cadavers of children and certify as to the practicability of such operations.

ON THE ETIOLOGY OF YELLOW FEVER.

THE Liverpool School of Tropical Medicine has been investigating the subject of yellow fever and through its officers Drs. Herbert E. Durham and (the late) Walter Myers there is presented (*British Med. Journ.*, Feb. 23, 1901) an abstract of their investigations. It is noted in passing that both investigators contracted the disease and in one of them, Dr. Myers, it proved fatal.

Among the most interesting of their findings was a fine, small bacillus found in all cases of yellow fever, which bacillus does not agree with any other which has been described as an etiological factor. They mention that Sternberg had seen it, but did not recognize its universal presence. Thus far the investigators have not been able to isolate and grow this organism either under aerobic or anaerobic

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conditions. They were unable to find any protozoon in any of the cases, although special search was made with this idea in view and the conclusion is reached that this class of parasite probably has nothing to do with yellow fever.

In view of the recent experiments of Drs. Reed and Carroll, the opinion of the workers of the Tropical School relative to the mosquito theory is of interest. According to them, the transference of a bacillary disease solely by means of insect parasites is an assumption difficult to understand. Moreover, their own experiments do not seem to bear out the American investigators and they further maintain that certain endemiological conditions are not satisfied by such an assumption.

That yellow fever may be conveyed by the mosquito is readily understandable, but even with the evidence, so well set forth at the Pan-American Congress, with the workers of the Liverpool Tropical School we are not yet prepared to accept the conclusions reached by the American investigators.

THE CAUSE OF SMALLPOX.

THE history of the search for the etiological factor of smallpox is one of much interest because of the extreme elusiveness of the agent in question. Bacteriologists have seemed to have come to the opinion that a bacterium is not the cause of the disease, or, if it is, it is one too small for the present powers of the microscope and as yet uncultivable.

Within recent years investigators have scanned the zoological field, and Dantzig in 1868 first described a corpuscle, which Renaut of Lyons and Van der Loeff of Amsterdam, in 1881 and 1886 respectively, held was probably a protozoon. More precise ideas were given by L. Pfeiffer in 1887-1891 in his studies on "Die Protozoon als Krankheits Erreger."

One of the latest studies is that of M. Funck of the University of Brussels (*Brit. Med. Jour.*, Feb. 23, 1901). He describes, in a preliminary note, a protozoon, occurring in three different forms which, he maintains, are the true agents in the causation of smallpox. He has named it the *Sporidium vaccinale* and credits Pfeiffer as the first to accurately describe it.

As yet the presentation of the author's studies is too incomplete to hazard an opinion of the merits of the work. We here append his conclusions without comment: (1) Vaccinia is not a microbic disease. (2) It is caused by a protozoon easily found in all vaccine pustules and in all active vaccine. (3) The inoculation of this protozoon in a sterile emulsion reproduces in susceptible animals all the classical symptoms of vaccinia. (4) This inoculation renders the animals refractory to subsequent inoculation with vaccine. (5) The variolous pustules contains a protozoon morphologically similar to that in the vaccine. (6) It follows that variola and vaccinia are two identical affections, that vaccine is nothing more than an attenuated form of variola, and that consequently the immunity to smallpox which vaccination confers does not form an exception to the general laws of specific immunity.

ECHOES AND NEWS.

NEW YORK.

Mount Sinai Hospital.—Examinations for vacancies in the house staff of this hospital will be filled by competitive examinations to be held at the hospital on March 28, 29, 1901. Graduates or those students graduating before July 1, 1901, are eligible. Applications in writing should be made to Dr. J. Rudisch, Mt. Sinai Hospital, New York.

Stony Wolde Sanatorium.—The Stony Wolde Sanatorium Building Committee met with persons interested in their philanthropic work at the residence of Mrs. Robert Maclay Bull, No. 40 East Fortieth street, last Tuesday afternoon at 3 o'clock. Short addresses were made by the Rev. Dr. William S. Rainsford, Dr. Edward G. Janeway, and Miss Wilkie, of St. George's Deaconess House .

Clairvoyance, But Not for Money.—The Assembly Public Health Committee has once more amended the Bell Anti-Christian Science bill reported it for reprinting. The bill has now been drafted so that it will not affect gymnasium instructors and will provide that Christian Science, clairvoyance, spiritualism and other cures may be practised gratuitously, but where they are utilized for gain they will be deemed to be a violation of the Penal Code. In this shape it is expected that the committee will report the bill favorably.

New York Academy of Medicine.—At the meeting of the Section on Surgery Monday evening, March 11th, Dr. Fred Whiting will read a paper on the Indications for the Ligation of the Jugular Vein in Sinus Thrombosis; with Illustrative Cases.

The Section on Otology will meet Wednesday evening, March 13th, and the following papers will be read: Tinnitus Aurium; Some

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Remarks on its Causation and Treatment, by Dr. Thos. J. Harris; Tympanic Vertigo, due to Obstruction in the Eustachian Tube, by Dr. Wm. P. Brandagee.

At the meeting of the Section on Pediatrics on Thursday, March 14th, papers will be read by Drs. Finley Bell, Martha Wollstein and John Lovett Morse of Boston, on the general subject of Typhoid Fever. Dr. Morse will speak on the Value of the Widal Reaction.

The Section on Orthopedic Surgery will hold its stated meeting Friday, March 15th. Patients, instruments, etc., will be presented by Drs. A. B. Judson, Henry Ling Taylor, W. R. Townsend, Homer Gibney, George R. Elliott and S. A. Twinch.

The following have been recommended for resident fellowship: Drs. William Seaman Bainbridge, Edwin Holmes, Lester Mead Hubby, Samuel Murtland, Louise G. Rabinovitch and Arnold Sturmdorf.

PHILADELPHIA.

Presbyterian Hospital.—The Board of Trustees has created a Department of Laryngology and Rhinology and placed Dr. A. B. Cleveland in charge.

Pennsylvania Hospital.—This time-honored institution will, early in June, reach the one-hundred-and-fiftieth anniversary of its founding. A committee consisting of two members of the Board of Managers, the Superintendent of the Insane Department, and the President of the Medical Staff, has been appointed to make arrangements for a fitting celebration of the event.

Death From Overdose of Potassium Chlorate.—Mrs. Mary C. Knauff, twenty-five years of age, died last week apparently from the effects of potassium chlorate taken to relieve a sore throat. One ounce of the drug was taken the first day and half an ounce the following day. Alarming symptoms afterward developed, and despite the efforts of the physician who was called, the woman died. Post-mortem examination was not obtained.

Dr. Osler Visits Philadelphia.—Dr. William Osler, of Johns Hopkins University, addressed the students of Jefferson Medical College Monday evening, March 4, on the philosophy of the "Power of Sympathy." The discovery of the old chemist was alluded to and then reference was made to the power of suggestion in modern medicine. Following the address Dr. Osler was the guest of honor at the annual banquet of the Hare Medical Society.

Smallpox at State Capital.—New cases of smallpox are developing at Harrisburg and the Sanitary Committee of Councils has ordered the vaccination of all persons not thus protected. The condition of affairs is an interesting one at this time, when antivaccinationists are making vigorous efforts to secure the repeal of the compulsory vaccination law. A memorial urging this action has been signed by thirty-six physicians of this city and Chester, who express the opinion that the theories upon which the law is based are antiquated. They are opposed to compulsory vaccination on account of its proven inability to protect and as "an unwarranted outrage on the personal rights of the individual guaranteed by the Constitution."

Primary Carcinoma of Appendix.—Drs. R. H. Harte and R. N. Wilson, Jr., report this case from the Pennsylvania Hospital. The patient was a woman of twenty-four years who had at intervals appendicular symptoms and also pain in the right lumbar region. The appendix presented no tumor, but its lumen was obliterated and a carcinoma one-half centimeter in extent was situated near the middle of the organ. The condition is believed to have been impossible of diagnosis before operation. Dr. Wilson believes that the seriousness of the prognosis in these cases has been exaggerated. If it is as unfavorable as is generally supposed, the propriety of at once removing every appendix when symptoms present is to be considered.

Home Treatment of Tuberculosis.—Dr. Lawrence F. Flick presented an admirable paper on the above subject at a recent meeting of the County Medical Society. The three ends to be attained are the restoration of the physiological functions of the body, hypernutrition, and the conferring of immunity. General practitioners should be more alert in making the diagnosis, an important early symptom being indigestion, persistence of which should lead to physical examination of the lungs. When the diagnosis is made three things are to be done. First, acquaint the patient with his exact condition, as this may be necessary to secure his coöperation in the treatment; second, explain to him that successful treatment means a long and persistent struggle, lasting perhaps from three to five years. Patients are often not cured when they seem to be and treatment should be kept up after symptoms subside; third, lay down a routine for governing the patient's life as to food, exercise, clothing, etc. These patients can often take large quantities of food, three to six quarts of milk and six to twelve raw eggs daily. Regarding medication, antidiaphoretics and opium are avoided. The iodine compounds are first in value. Next is creosote which is given in hot water before meals in doses reaching 50 drops three times a day. Strychinine, arsenic, phosphorus, digitalis, and iron are of value. Use any drug that will help any organ. One of the greatest difficulties in the treatment is the occurrence of complications, as colds, influenza, or pneumonia, either of which may cause a recrudescence. In event of their occurrence absolute

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rest in bed for several weeks must be insisted upon. The results of six years' work by Dr. Flick shows 18 per cent. of cures, with varying degrees of improvement in 55 per cent.

CHICAGO.

Appointment of Dr. Stanton.—Dr. S. C. Stanton has received the appointment of Contract Surgeon in the United States Army, to be stationed in Chicago. He has been doing work in connection with the Government's recruiting station here for some time.

Chicago Laryngological and Climatological Society.—At a meeting, held February 28th, the following officers were elected: *President,* Dr. Wm. E. Casselberry; *Secretary and Treasurer,* Dr. John E. Rhodes; *Council,* Dr. Wm. L. Ballenger, Dr. Otto Stein, and Dr. Melville T. Hardie.

Ravages of Venereal Diseases.—This subject was discussed at the regular monthly meeting of the Physicians' Club of Chicago, held February 25th.

Circumcision in Restricting the Spread of Syphilis.—Dr. Harold N. Moyer spoke on this subject. In view of the doubtful efficacy of registration and examination, the speaker earnestly invited attention to an operation which is simple, devoid of mortality or disfigurement, against which nothing can be said, and which has as a result, if universally applied, a lessening of the most disastrous of venereal diseases from 50 to 75 per cent., namely, circumcision.

Diminution by Education.—Dr. Edmund Andrews said that in educating the public the medical profession can sometimes work through other professions. Physicians can do a great deal of good through the clergy. The clergy have a powerful influence in every community, so that in educating the public as to these diseases and their ravages, it is important to secure their coöperation. Morality and sanitary science are natural allies and ought to march forward hand in hand.

Special Hospitals.—Dr. Joseph Zeisler regretted that there is not a hospital in Chicago for the treatment of venereal diseases. Vienna has a hospital in which there are six hundred beds for the management and treatment of venereal affections. The educational value of such hospitals, aside from the treatment and care of patients, would be immense to physicians. Students would have the advantage of seeing a large amount of material and of receiving from eminent men instruction in regard to venereal diseases.

Can Venereal Diseases Be Lessened?—This phase of the subject was discussed by Dr. J. Clarence Webster. He said there was no more important factor in producing disease, misery and distress in women than the gonococcus. The rank and file of the profession look upon gonorrhea in women as did our forefathers. A chronic gonorrhea may be apparently cured, but there may remain a latent condition. In females the gonococcus acts only on the urethral mucosa primarily and on the cervical mucosa. It rarely attacks the vagina or the vulva. In young children a typical gonorrheal vaginitis or vulvitis may be observed. The ordinary routine treatment of gonorrhea in the female by douches, etc., is responsible for an enormous amount of inflammatory mischief occurring elsewhere.

Legislative Control.—Judge Lorin C. Collins feels that something should be done toward legislative enactment for the control of these diseases, and he believes a move on the Legislature of the State, with such a body as the medical profession back of it, would be a great educational force which would lead to the dissemination of information on these subjects and eventually bring about some good. But any measures, however, for the control of these diseases would have to be handled in a careful, conservative way in order to meet with the approval of State legislators. Dr. L. Blake Baldwin said that a small hospital had been established for the treatment of venereal diseases in Chicago, and that a public-spirited citizen had already contributed $3,000 toward it. There are at present forty patients in the institution suffering from either gonorrhea or syphilis, or both.

Menace in Dowie Faith.—A man by the name of Carstensen fell down the basement stairs a short time ago while carrying a pail of coal, fracturing five ribs. He was taken upstairs and until his death was without medical aid. He was a believer in the teachings of Dowie. A Coroner's jury reached the following conclusion: "From the evidence presented, we, the Jury, believe that if medical aid had been rendered the deceased would have recovered from his injuries, and that he would have certainly been spared the physical agonies which he evidently suffered; and we recommend that some law be enacted which will compel medical examination by licensed physicians in cases of accidents or external violence."

Warning by the Health Department.—The City Health Department has issued a warning that debilitating causes of all kinds, particularly alcoholism, predispose to attacks of pneumonia. Exposure to sudden changes of temperature should be avoided. The feet should be kept dry and warm and the throat and chest well protected. Fasting rather than indulgence should be adhered to. The higher the bodily condition the less favorable is the growth and virulence of the pneumonia germ. The laboratory examinations show a notable decrease in the findings of the influenza bacillus, indicating that the disease is declining. On the other hand, the organism of pneumonia is found in increasing numbers, and there is a

strong probability that, with the usually trying March weather, there will be a marked increase in the prevalence of this malady.

Prevention of Insanity.—At a meeting of the Chicago Society of Internal Medicine, held February 25th, Dr. D. R. Brower read a paper on this subject, in which he said that insanity has increased out of all proportion to the increase in population during the last thirty or forty years. The statistics of Great Britain show that the proportion of insane to the whole population in 1860 was 1 to 523, in 1890 1 to 320, and in the State of Illinois the proportion of insane to the population was about 1 to 400. Preventive measures must come from the States. The State has assumed the care and maintenance of the insane. Indeed, it has made it a criminal offence for anyone to restrain them without the consent of its courts, and inasmuch as the State has assumed this great responsibility, it is its duty, in the interests of altruism and of economy, to use every possible means for the prevention of insanity, to find out how this may be done, to educate the people and to enforce methods of prevention. The State should, through the State Board of Health, furnish the people with information that they can comprehend as to the causes of insanity and of methods that may be applied for its prevention, and the State should be as ready with the same paternal power it uses in smallpox, cholera, etc., to enforce those methods that have the approval of the medical profession. The State should make its insane hospitals schools for instruction in insanity. It should by competent authorities select by competitive examinations senior students in medicine from medical colleges and place them in hospitals for the insane as internes. These internes should remain at least one year, receiving board, lodging, and a small gratuity at the end of the service. By adopting such methods at least thirty physicians every year in Illinois with mental attainments of a high order will be sent forth with a good clinical knowledge of insanity, its prevention and treatment, and become so many prophylactic centers in as many communities; but a few years would be necessary to have from one end of the State to the other an abundance of skilled medical men competent to solve this great problem. The State should assist in providing treatment for carefully-selected cases in wards connected with the hospitals now to be found in every city and almost every town in the State, and the requirements for admission should be the same as those which apply to any other disease. Heredity as a factor in the production of insanity can be reached radically by only two methods, first, the regulation of marriage, and second, the asexualization of degenerates, but in order that either one of these methods may be established there must be a great deal of educational work done by the medical profession.

GENERAL.

Kentucky State Medical Society.—The forty-sixth annual session of this Society will be held in the city of Louisville May 22, 23, 24, 1901.

American Neurological Association.—The twenty-seventh annual meeting of this Association will be held in Boston on Wednesday, Thursday and Friday, June 19, 20 and 21, 1901. The meetings will be held at the Boston Medical Library. Members are requested to send the titles of papers to be presented by May 20th.

Grace Hospital of New Haven.—Following the summary dismissal a few days ago of Dr. Arthur S. Cheney, head of the surgical staff in Grace Hospital, on the charge of taking fees from a hospital patient, comes the announcement to-night that his father, Dr. Benjamin H. Cheney, chairman of the board of physicians and surgeons of the same hospital, has resigned. Coupled with the same announcement is another that his mother, Mrs. B. H. Cheney, chairman of the woman's board of Grace Hospital, has also resigned.

Medical Examination of Engaged.—The Senate passed a bill March 4, 1901, which is designed to limit divorces in Indiana by preventing ill-chosen marriages. The bill provides for the appointment of a commission by the Governor which shall be composed of two women, who are mothers, two physicians of conceded ability, and one attorney of high standing, who shall prepare rules for the government of officers in the issuance of marriage licenses and of ministers in performing ceremonies; and examinations shall be made of all applicants for licenses, and no marriages shall be celebrated in the State unless the requirements are complied with. The idea back of the bill is to require physical examinations and an inquiry into the parentage of the applicants to the end that their union may be prevented in the event that conditions inimical to the welfare of society should be foreshadowed as a result of marriage.

Obituary.—Dr. Richard J. Dunglison died at his home in Philadelphia Monday, March 4th. He was a son of Prof. Robley Dunglison and a grandson of Dr. John Leadam, a celebrated London surgeon. Dr. Dunglison was born in Baltimore, Md., November 13, 1834, was graduated from the Central High School and the Collegiate Department of the University of Pennsylvania, receiving the degree of A.B. in 1852 and A.M. in 1855. In 1852 he took up the study of medicine under his father's direction, and, after a four years' course in the Jefferson Hospital Medical College, graduated from that institution in 1856. He was the edi-

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tor of "Dunglison's Dictionary," originally written by his father, Dr. Robley Dunglison, and many other medical works of reference. He was acting assistant surgeon in the army from 1862 to 1865, and executive officer of a local army hospital during the closing years of the Rebellion. He was a member of the County Medical Society, Mutual Aid Association, State Medical Society, American Medical Association, International Medical Congress and many similar organizations, in nearly all of which he held office.

The Law and the Physician.—According to the *San Francisco Examiner* a physician of that city was ordered to pay $2,000 damages by the Supreme Court. Evidence showed that over a year ago he was called to attend Mrs. Margaret A. Lathrope. An operation was deemed necessary by him. Her screams interfered with his application of the necessary instruments. He finally said that if she "did not quit he would quit." And leave he did, although the patient was in agony. The husband followed the physician to the door, begging him not to go. Refusing to come back, it was over an hour before another doctor was obtained, the woman in the meantime suffering dreadfully. The other surgeon performed the operation, saving the mother's life at the expense of that of the child. Mr. and Mrs. Lathrope sued the physician and got a verdict for $2,000 in the Superior Court. The case was appealed and the Supreme Court upheld the decision of the lower court, as follows: "It is the undoubted law that a physician may elect whether or not he will give his services to a case, but having accepted his employment, and entered upon the discharge of his duties, he is bound to devote to the patient his best skill and attention and to abandon the case only under one or two conditions. First, where the contract is terminated by the employer, which termination may be made immediately. Second, where it is terminated by the physician, which can only be done after due notice and an ample opportunity afforded to secure the presence of other medical attendance. * * * He can never be justified in abandoning it (a case) as did this defendant, and the circumstances show a negligence in its character amounting well nigh to brutality."

CORRESPONDENCE.

THE MEDICAL SOCIETY OF THE STATE OF NEW YORK AND THE AMERICAN MEDICAL ASSOCIATION.

To the Editor of the MEDICAL NEWS:

DEAR SIR: In view of the recent paper by Dr. Frank Van Fleet of New York City, discussing frankly, but temperately, the relation of the double State and county organization of the regular medical profession in this State, it may seem that further writing on the same general subject is unnecessary, but as it has been for some time my intention to prepare such a paper, and as the standpoint of any two writers is somewhat different, additional consideration of this subject may be allowable.

Whatever is said on this subject depends so largely on the attitude of the writer that it is proper at the outset to place before the reader a declaration of platform. The old bitterness which led to the establishment of a second set of regular medical organizations in the State of New York antedates the present writer's active professional life, and he has been the recipient of courtesies from both organizations and he enjoys the friendship of men prominent on both sides of the dissension. To this degree impartial, he is strongly biased by a veneration for whatever is ancient and established, by a corresponding dislike of all schism, religious, political or professional and by a deep regret that the framers of the Constitution of the United States were not able, as was seriously considered at the Constitutional Convention, to do away entirely with the sovereign states and to establish a central national government. Thus, he is at the same time as loyal to the State Society as the older men who advocated a policy which inevitably led to the separation from the National body and as anxious for representation in the latter as the most energetic seceders who formed the Medical Association of the State of New York.

Since all privileges of a scientific and social nature attaching to the American Medical Association are open to every medical practitioner of the country in good standing, who is not avowedly in opposition to the principles of the general medical profession—alias Allopaths—and since the medical politics of the Association to the ordinary mind are not worth the trouble and expense involved, it may well be asked, Why consider seriously the privilege of delegate membership at all? The writer is sufficient of a Yankee to answer this question with two others: Why does the average American, whose political privileges amount practically to casting a ballot once a year for one of two sets of men selected by forces entirely beyond his control, value his franchise so dearly? and, Why does the chaste bachelor have a sentimental objection to emasculation? It certainly is not pleasant for the medical man from New York to feel that he is debarred from the privileges enjoyed by members from other States and that he must either abandon his franchise in the American Medical Association or obtain it by membership in a private or semiofficial State organization.

The breach between the New York State Society and the National organization was due to the efforts of the former to secure decent requirements as to medical training and the education of medical students. To obtain leg-

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islation, it was necessary to combine with Homeopaths and Eclectics and, more or less formally, to recognize these schools. That the action of the Society was wise has been amply proved by the results not only in New York, but in other States which have followed the example and, strangely enough, in one or two instances without incurring the displeasure of the American Medical Association, or at least without the loss of representation of their State societies in the National body.

Indeed, the exasperating feature of the whole matter is the utter needlessness of the schism at present existing in our State. A double State and county organization of medical men is exactly as useful and desirable as two tails on a cat. The medieval notion that one must be in full sympathy with every detail of an organization, or must get out and establish an organization of his own, has been the curse and scandal of Christianity, has been the cause of most of the political troubles of the world, and it is the main evil with which the medical profession has to contend. A little tolerance and indifference, a couple of generations ago, would have deprived the school of homeopathy of its excuse for existence and would have obviated one of the marked weaknesses of the medical profession. The same spirit in the late seventies and early eighties would have avoided the greatest source of discord in the regular profession of our State.

If there existed a genuine and marked difference of principle between the two sects of regulars in New York, one might view the situation with equanimity, but no such difference exists. The adherents of the Society have recognized Homeopathy and Eclecticism only to the degree of making a compromise which was a necessary step toward an end the utility of which every physician and layman must admit. On the other hand, the adherents of the Association seem to feel that it is a theory and not a condition that confronts them. Many of the most active supporters of the Association consult freely with Homeopaths, and it is broadly hinted that some of its members even seek such consultations. On signing the application blank for the American Medical Association, the writer remarked, "There, I suppose I have committed perjury for I certainly shall not refuse to give advice for a patient in an emergency, even if the attendant is a Homeopath—although I would surrender a case rather than call a Homeopath in consultation." "Oh, no," rejoined one of the stalwarts, "we simply confess that consultation with a Homeopath is an absurdity; we don't promise not to hold it."

The worst feature of the whole matter, at present, is that at the very time when a spirit of toleration and harmony is rapidly developnig in the profession, and when there is needed only a little patience until a few desirable funerals have taken place, so that the obstacles to reunion of the State Society and the National Association may be removed, the State Association is making the most strenuous attacks on the State Society and its county branches. Specious appeals are being made to physicians, especially young men who do not realize the conditions, to leave the legal medical organizations of the State. It has recently been made impossible to secure delegate membership in the American Medical Association through local societies and thus the issue between the State Society and the State Association is being forced. Schemes are on foot to swing bodily the smaller county societies into the new organization. The most insidious flattery in the way of personal invitations to read papers at Association meetings and even the relative convenience of travel to New York City instead of Albany and in October instead of January are brought to bear as arguments. It is even stated that the Association has now secured full legal equality with the Society—a statement which is not borne out by fact, although the Association has, by vigorous lobbying, secured more than the usual privileges of private, incorporated societies.

It is bad enough, in this country to destroy anything, even an old house, that has begun to attain respectable antiquity, but, in the present instance, there is a far more practical reason for respecting the ninety-five years of the Medical Society of the State of New York. This Society is a marvelous example of the influence and dignity of the medical profession of a century ago and of the wisdom and foresight of our early legislators. It is the precedent, for the whole country—and for not a few older nations—for establishing the medical profession as a responsible part of the machinery of government. The American Medical Association is, in comparison, a purely informal gathering and even the *Pharmacopœia* has no legal status other than the weight of common acceptance. Every State that has accomplished anything in the way of regulation of medical practice and medical education has, directly or indirectly, based its argument to the people and their representatives, on the Medical Society of the State of New York. The time is not far distant when it will be almost imperative to secure something of the nature of a National medical board, at least in supervising the medical affairs of our new possessions. Already, the weakness of the bond of purely voluntary support of National organizations is being felt and admitted. Is it wise for a minority of the medical profession, a minority whom, personally and scientifically, we must consider with respect, to attack the earliest and most perfect example of State medicine that we possess?

A. L. BENEDICT, M.D.

Buffalo, March 1, 1901.

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OUR LONDON LETTER.

[From Our Special Correspondent.]

LONDON, February 23, 1901.

EXTRAORDINARY FRAUD OF A MEDICAL STUDENT —OBTAINING HIS OWN DEATH-CERTIFICATE— THE OUTBREAK OF ARSENIC POISONING FROM BEER-DRINKING—HEAVY DAMAGES AWARDED AGAINST THE MANUFACTURERS OF THE CONTAMINATED SUGAR—THE DRINK QUESTION— THE SOUTH AFRICAN HOSPITALS COMMISSION —SEVERE CRITICISM BY MR. BURDETT-COUTTS— AN EQUIVOCAL REPORT—RESPONSIBILITY NOT FIXED—WANT OF POWERS IN THE TAKING OF EVIDENCE—REFUSAL OF EVIDENCE BY THE COMMISSION—ANALYSIS OF THE EVIDENCE—A MAJORITY OF THE OFFICIAL WITNESSES IN FAVOR OF THE ARRANGEMENTS BUT THE INDEPENDENT WITNESSES WERE AGAINST THEM.

"I AM the dead body," said Mr. William Browning, described as a Dublin medical student, when arrested on a most extraordinary charge of fraudulently obtaining a death certificate. He was living in lodgings in London and complained of serious illness, took to his bed, and sent a note to a doctor asking to be attended. He described symptoms pointing to Bright's disease. His temperature was high and there seemed no doubt that he was seriously ill. The doctor attended and sent medicine regularly. One evening the patient gave out that he was much worse and had sent for his brother. On the following morning he shaved off his moustache made other alterations in his appearance and proceeded to the doctor's office where he asked for a certificate of "his brother's" death. In answer to the usual questions he said he was present at the death and described the manner in which his brother had died, the details being precisely those which would be expected in Bright's disease. As the nearest relative he was therefore given the certificate. The doctor at the time noticed the close resemblance which the man bore to his alleged brother. So far all went well, but as the doctor made it a custom to see the dead bodies of his patients he proceeded to the house. The room was closed, but after some delay a key was found and he effected an entrance. The room was in darkness, but on the bed he could see the dim outlines of what appeared to be a corpse. The head was wrapped in a pillow-case, which struck the doctor as strange. On pulling the covering he found that there was no head at all! Then, on turning back the sheet he found that the "body" was composed of a couple of blankets. The doctor at once summoned a policeman. On searching the prisoner's box a life policy for $1,000 was found. He alleged that his sole motive was to make his people believe that he was dead.

Messrs. Bostock of Liverpool who supplied the sugar contaminated with arsenic to about 500 breweries in the North of England and were thus the sole cause of the epidemic of arsenical neuritis have been mulcted in heavy damages by one firm, which has received £1,980 for loss of beer which had to be destroyed. Another fatality from arsenical neuritis has occurred. A man, aged fifty-three years, was in the habit of drinking from two to three pints of beer daily up to the time of the arsenic scare, but since then had not touched any. After ailing for four months he became an out-patient at the Manchester Royal Infirmary. He was admitted as an in-patient on January 9th and improved until February 4th, when he sank rapidly and died of heart-failure on the following morning. The necropsy showed that the case was distinctly one of arsenical poisoning. Two other cases of arsenical poisoning have also been the subjects of inquests, with like result.

The drink question continues to trouble medical authorities not a little. The *Lancet*, in an article on the drinking habits of the nation, points out that since the days of Todd—a generation ago—no medical leader has sanctioned the reckless use of alcohol. In an address recently delivered Dr. Carter of Liverpool points out that while the mortality from almost every disease has fallen that from alcoholism is an exception. The deaths have risen from 45 per 1,000,000 of those living in 1878 to 77 per 1,000,000 in 1897. Dr. Carter is impatient with such matters and calls for "legislative or other action."

Mr. Burdett-Coutts, whose now famous letters to the *Times* were the cause of the appointment of the South African Hospitals Commission, has criticised the methods and findings of that body at great length in the daily press. He claims that public opinion has expressed itself very generally to the effect that the report practically justifies all his contentions. But, because he does not find the necessity for that root-and-branch reform for which he has striven made sufficiently clear by the conclusions and recommendations of the Commission, he once more has recourse to the press. The governing defect of the report according to him is that it is weak, inconclusive and equivocal. While it affords confirmation of every charge he has made, it can at the same time be construed into a vindication of everything that has occurred and of every person, authority, and department. In hardly a single case is the responsibility for defects pushed home to its true cause, nor are the widespread and injurious results adequately described. The first essentials to real reform are therefore not supplied. But whenever responsibility can be deprived of a particular incidence, then the Commission treats the matter with some decision. Thus, the undermanning of the Army Medical Corps for which both political parties are responsible is brought into special prominence. When the question of responsibility grows "warmer," as in the case of hospital provision, the delicacy of touch becomes obvious. The crucial test of provision is that there should be hospitals other than those on the march sufficient to accommodate 10 per cent. of the troops. This is a lesson taught by every war.

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On February 27th for 100,000 men only 3 per cent. accommodation was provided. But the Report is silent on this point.

The method of taking evidence Mr. Burdett-Coutts strongly criticises. The Commission had no power to compel the attendance of witnesses or the production of documents, or to take evidence on oath. The sense of discipline and the fear of the consequence must have been a great deterrent to official witnesses giving evidence against their superiors. The Commission themselves say, "Our private soldiers are very slow in making complaints." The vast majority of the official witnesses gave evidence in favor of the medical arrangements, but the majority of the independent witnesses, naturally a small section in South Africa, gave evidence against the arrangements. Again out of 75,000 patients treated only 174 were examined—a very insufficient number. The total number of witnesses examined was 462, of which 177 were official. No patient who was in the "famous" hospital of Bloemfontein appears to have been examined, though at least 1,000 men must have passed through it. Of the patients examined only 20 were officers, yet Mr. Burdett-Coutts was denounced as insulting the British Army because he declared in the House of Commons that officers would not come forward. Of the 154 men examined the evidence of 74 was taken at a single afternoon on the occasion of a "state visit" to Wetley. From a great deal of experience in taking evidence on this subject Mr. Coutts is satisfied that such a hurried method of dealing with more or less reluctant witnesses is ineffectual. He found in taking evidence on this subject that even with the aid of a shorthand writer it was hardly possible to get a detailed statement in less than an hour. But in spite of all the deterrent circumstances 47 of the 174 witnesses gave evidence against the arrangements. More than this, the Commission actually refused evidence. Immediately on its return from South Africa Mr. Coutts wrote to the president stating that witnesses who had made statements to him pertinent to the inquiry were willing to go before the Commission. But the president replied that they had decided to hear no more evidence. Now, whether an unprejudiced reader will be convinced or not by the preceding criticisms of Mr. Burdett-Coutts, who is an exceedingly able advocate, making the most of his case, I cannot see how two opinions can exist on this extraordinary refusal of the president—a refusal which is rendered all the more flagrant by the fact that Mr. Coutts was the real protagonist of the struggle and that the Commission was largely in the hands of the other side and that the president had asked him specifically more than once to suggest witnesses. His witnesses consisted chiefly of Colonials, yoemen, volunteers and reservists, who were taking their discharge. They wrote to Mr. Coutts voluntarily. None of them bore any suspicion of malingering or "grousing." They scorned to complain of hardships in the field and unavoidable privations. They confined themselves to faults the remedy for which they could see with their own eyes. When lying side by side in hospital with the regulars the latter had constantly said to them, "Mind you speak up for us when you go home. Tell about these things. It won't hurt you. You know we daren't."

Analysis of the evidence given before the Commission gives the following results: A, *Official,* 1 field marshal, 1 chief of staff, 1 press censor, all in favor of the arrangements; 8 generals, 4 colonels, 1 major, 3 captains, 1 lieutenant, all for, except 3 moderate; army chaplains, 14 for, 4 moderate against. Including transport, ordnance and other officials, out of a total of 56 there were 7 against. In the Army Medical Corps 10 out of 121 officials were against the arrangements. B. *Independent,* civilian doctors in military hospitals, 18 for, 11 moderate, 23 against; civilian doctors in private hospitals, 6 for, 5 against; local clergy other than army chaplains, 6 for, 5 against; civilians (miscellaneous), 5 for, 9 against; lady visitors, 5 for, 9 against. Thus, out of 105 independent witnesses, 55 were against. So much for Mr. Coutts' general criticisms of the methods of the Commission. In my next letter I will deal with a further publication of his in which he comes to close quarters with the evidence.

TRANSACTIONS OF FOREIGN SOCIETIES.

German.

PES PLANUS—OVARIAN DERMOID CYSTS—RETENTIO PLACENTÆ CORNUALIS—MANUAL EXTRACTION OF THE PLACENTA—RACHITIS IN ANIMALS—GASTRIC ULCER.

PETERSEN, at the Physiologischer Verein in Kiel, June 25, 1900, in a paper on flatfoot stated the generally-familiar anatomical, physiological and mechanical considerations of the matter and then proceeded to an elucidation of the terms of function. So good an authority as Henke does not mention *pronation,* while others call it at one time *pronation* and at another *abduction.* Uniformity in nomenclature is easily attainable if one imagines the body in the dorsal decubitus position, with the feet bent downward into the horizontal position upon the table till the line of the sole is parallel with the long axis of the lower extremity. In this manner the foot will be in the same relation to the leg as the hand is to the forearm. Starting with the foot in this position *pronation* and *supination* will be any turning of the foot about the long axis of the limb precisely as in the case of the hand, and abduction and adduction will be respectively movement in the sagittal plane of the limb from and toward the midline of the lower as with the hand in the upper extremity. The acknowledgment of such universal distinctions will, of course, be of greatest service in the line of accuracy. The best definition of this common condition is probably given by

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Henke in these terms: Pes planus is pes flexus, reflexus, abductus and later may be added pronatus. First, as to pes flexus: The flexion occurs in the upper joint (*talocrural or tibiotarsal joint*), but usually remains within physiological limits. The head of the astragalus is turned backward and the tuberosity of the os calcis is raised. Second, as to pes reflexus: The flexion forces both the astragalus and the calcaneum backward and slightly or tends slightly to raise the point of the foot from the ground. Reflexion then occurs in the mediotarsal joint and when physiological limits are exceeded a subluxation occurs. Then the arch of the foot is flattened and slightly sunken. Third, as to pes pronatus: The twisting of the foot in this element of the lesion is mainly in the lower ankle-joint, especially the taloculcaneal articulation. The os calcis turns about, so that its outer side looks more and more upward and, finally, in the last degree of bad cases, makes an articulation with the point of the external malleolus. The whole calcaneal axis is displaced outward beyond the center of gravity of the leg. The height of the arch of the foot touches the ground and the foot has become deformed. Even here at this stage all the physiological limits of motion are exceeded. Pes abductus, the fourth element, presents a displacement outward of the foot so that the anteroposterior axis of the foot is broken into an angle. The apex of this angle is at the mediotarsal joint and is formed by the head of the astragalus which has sunken inward and downward. To this actual abduction must be added a certain degree of pronation. Concerning the mechanical cause of flatfoot, the speaker said that the ordinary manner of walking with the toes turned outward is a highly favorable condition for it, because in this manner the outer border of the foot first reaches the ground and first receives the weight of the body, while the inner remains lax. This uneven distribution of the body weight has a large causative influence upon the succeeding stages of the finally complete lesion.

HABS, at the Medicinische Gesellschaft zu Magdeburg, November 8, 1900, presented a specimen of ovarian dermoid cyst obtained by operation the contents of which were the following parts of a face: The upper eyelid was fully developed and the lower but partially so. Each had lashes and the upper a brow. Behind them was a sac representing the eyeball. A considerable part of the forehead, with scalp and hair, was present and the supporting base of it all was a fragment of the frontal bone.

THORN discussed the important topic of retention of the placenta in the horns of the uterus. Just as the implantation of the fertilized ovum over the internal os may lead to abortion, its lodgment in the uterine cornua is filled with danger. Foremost is the fact that when abortions take place under these conditions, the chorion is very apt to be retained. Out of the last 100 abortions carefully observed eleven suffered from cornual retention of the chorion, to which may be added two recent cases. The anatomical form of the uterus is a potent factor in causing it by an undue development of the horns. Displacements are also important, especially retroversions. Of the eleven cases mentioned the right cornu was five times and the left cornu six times the size of the chorion. The treatment was for the most part curetting, repeated in some cases as often as three times, but without result. Such retentions of the chorion are much more important in practice than the text-books state. If the bleeding and other symptoms persist after the curetting, it is best not to repeat it often or too vigorously, lest the uterus be perforated. Only an adept can expect to clean out successfully a deep uterine horn. It is far better for every one to dilate the cervix and explore with the fingers in order to know just what the conditions are. Such dilatation had best not be done with force, but with laminaria or some of the gradual means. Under antiseptic precautions they are safe and are free from any risk of lacerating or rupturing the soft uterine tissues. The technic of a digital evacuation of the uterus is as follows: When the cervix is with difficulty penetrable, it is well to seize its anterior lip with a volcellum, so as to draw it well over the fingers upon the hand and secure it there. In this manner a uterus with a long neck and a large, soft body can be more easily explored and treated. Digital emptying of the womb should be oftener resorted to, while its details are more difficult than those of mere curetting it is *per se* far less hazardous. At the present time it is probable than manual extraction is practised far oftener than necessary. In consequence of this and very likely still more of faulty technic it is responsible for the majority of puerperal fever cases. In his own consulting practice he finds it is the cause of three-quarters of all the troublesome postpartum complications and sequelæ. He therefore utters the dictum that present methods may be greatly improved. Olshausen recommends rubber gloves in cases which are intrinsically septic and when the opportunities for sterilizing the hands are imperfect or the hands have, in spite of care, probably been in contact with septic material. Certainly rubber gloves in more general use will be of service. To the experienced hand there are two moments during the extraction, which are trying and lead to imperfect work. First is that of an alarming hemorrhage which almost always follows the introduction of the hand. Second is the unfamiliarity of the hand to the feeling of the postpartum uterine cavity. The undue haste on account of the first factor and the incomplete work of each cause only partial

extraction to result, or the infection of the placental site by a reintroduction of the hand through the externalia. Vaginal extirpations have taught us that uterine hemorrhage can be lessened by drawing the organ downward until the external os corresponds with the introitus vaginæ, thus causing a strong kinking of the uterine blood-vessels, with consequent decrease in the flow of blood. The postpartum uterus similarly permits itself to be drawn far down into the vagina by means of a volcellum attached to the anterior lip of the cervix. If one desires to be exceedingly careful one has only to insert a speculum in addition to have all in full view. The addition of a pair of wide short-blade specula to every complete obstetrical set is now an absolute necessity. In an emergency the blades of the forceps can be used as retractors. Another efficient substitute is to seize the anterior and posterior lips of the cervix with strong volcella and, drawing the uterus strongly down, consign each to an assistant for holding. The gloved left hand now follows the umbilical cord into the uterine cavity and cleans it out, while the fundus is supported from above by the right hand.

HANSEMANN at the Berliner medicinische Gesellschaft, December 12, 1900, read a contribution to the study of rachitis, concerned chiefly with observations of the disease among monkeys and other animals confined at the museums. Monkeys in confinement in almost any climate are very apt to develop rachitis in varying degrees, often very extreme. The bearing of simply unnatural conditions in their confinement is of manifest weight and very suggestive of the real cause of the disease among children. The absence of ordinary chloride of sodium from the food has been claimed to be a potent cause too. This the writer has not yet been able to verify and prove beyond all doubt, but it probably has considerable influence on the disease.

W. KÖRTE, at the Verein für innere Medicin in Berlin, December 17, 1900, discussed the subject of gastric ulcer and its relation to surgery. Primarily gastric ulcer belongs to the realm of internal medicine and only its sequelæ or complications come under the care of the surgeon. Even in these it is the rule that first of all the various means of medical treatment shall first have been exhausted. Benign cicatrical stenosis is the first good indication for surgical interference. In carcinoma the difficulty is that a diagnosis is established too late to permit of any good result. In the benign scar-tissue contractions the treatment is directed not to the ulcer itself, but to the result of it. The open ulcer will be amenable to surgery when its site can be fixed at the pylorus and all means for internal treatment have failed. Hemorrhage often constitutes an urgent indication, but surgery is then both a last and a doubtful resort. What shall universally be the deciding factors in hemorrhage determining for operation cannot be fixed. One must distinguish one case from another on its own merits. The dangers of gastric surgery are considerable and must never be lost to view. They comprise chifly the power of resistance on the part of the patient, which no skilful practitioner will permit to become too depreciated, and the condition of his other organs, notably the respiratory tract. Pneumonia in these cases appears to be rather common and its dangers are great. The size and depth of the ulcer are beyond the means of diagnosis until the abdomen is opened. The danger of infection of the peritoneum has within the power of human beings been reduced to a very small element. Sicknesses which follow the operation are various. The most important and fatal is pneumonia. Why it should occur is difficult to say. One theory states that the painfulness of the abdominal wound leads to shallow respiration and this faulty function favors the pneumonia. There does not appear to be any direct way of avoiding it and it is to be expected with a preceding bronchitis. In his own practice he has had twenty male and seventeen female patients submit to operation. The greater number of males is due in part to the fact that they must submit to the requirements of work and hence regard the operation as a shorter treatment and that, as a rule, men submit less patiently than do women to long and laborious courses of treatment. The smaller number of women is against the common experience that gastric ulcer is more common among them than among men. The age limits varied between sixteen and sixty-one. Among the younger series, females again predominated. The extreme duration of the preliminary sickness was thirty years; three less than one year and one stated it at five weeks. The usual symptoms were emaciation, vomiting and pain. In thirty-one patients dilatation coexisted with the stenosis. A few time the stenosis was situated not at the pylorus itself, but at the pars prepylorica. Excess of hydrochloric acid was present in twenty-four cases. The differential diagnosis from cancer is not always possible to make, not even at the operation unless a microscopical examination can be had. For conditions due to the ulcer, independent of stenosis, he had operated twice. Of the three operations, resection, pyloroplasty and gastroenterostomy, the last is to be considered the normal in the majority of cases. Resection is to be thought of only when carcinoma is suspected. He has done five resections with one death, twenty-eight gastro-enterostomies with twenty-one recoveries. Two of those who died were lost by secondary hemorrhage from the ulcer. Hence the anastomosis cannot be regarded as curative of the bleeding of these sores. Before he adopted the retrocolic anas-

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tomosis he had two cases of *circulus viciosus,* but since then he has had nineteen consecutive cases without it. There is one accident in these cases which he has observed a single time. The gastric ulcer may recur and perforate or may extent into the jejunum and then perforate. His patient had remained well three years and died of peritonitis due to a perforation of a peptic ulcer through the jejunum. The other ultimate results were permanent, as the patients without exception regarded themselves as healthy mortals. Pyloroplasty (Mikulicz-Heinecke) gives devious results. The Murphy button is not advisable. For the cure of actual bleeding, operation is very difficult to perform and uncertain in its results. It should be a final resort in the grave cases.

SOCIETY PROCEEDINGS.

NEW YORK ACADEMY OF MEDICINE—SECTION ON ORTHOPEDIC SURGERY.

Stated Meeting, Held January 18, 1901.

George R. Elliott, M.D., Chairman.

Deformity of Adolescence.—Dr. Homer Gibney presented a girl, aged seventeen years, tall, with a round back or posterior curve of adolescence of which he exhibited a tracing. He had applied the plaster jacket she now wore, only a few hours before, by placing her in the recumbent position, the body resting upon two uprights—one under the pelvis and the other under the point of greatest prominence of the back. Her head and shoulders were allowed to sag backward and downward. The position maintained, which caused the patient some suffering, was a marked overcorrection. Another jacket would be applied later. The patient did not bear the operation well, on account of cardiac complication.

Dr. Henry Ling Taylor said he had not understood what diagnosis had been made, but the girl seemed unusually tall for the age assigned, and asked if the possibility of gigantism had been considered, as a marked round back was common in such conditions.

Dr. Royal Whitman said he was familiar with the history of the patient. She had some cardiac disease, was rickety, overgrown and badly nourished. He considered her condition merely the round spine of adolescence partly due to her height and heart weakness, and called attention to the fact that the patient showed lack of ordinary intelligence.

Dr. W. R. Townsend said that he had put up a case of *spondylose rhizomelique* last week in a much straightened position, followed by a feeling of relief to the patient.

Dr. Taylor remarked that Kietley had described anterior crutches to hold the shoulders back, which would seem to answer the purpose of epaulettes as used in this jacket, without their disadvantages.

Epicondylar Fracture of the Elbow.—Dr. Homer Gibney presented a small boy who had sustained a fracture of the elbow three months previously. The fracture was above the condyle. When the patient presented himself at the Hospital the elbow was fixed at an angle of 105 degrees with but little movement. The joint was cut down upon by Dr. V. P. Gibney and the detached fragment sutured into place.

Dr. V. P. Gibney said the epicondyle and nearly the entire condyle had been displaced, interfering with motion. He had cut down upon the joint and separated it with an osteotome, cleaned off the site of the fragment and pushed it down suturing with kangaroo tendon; he then put the arm in a straight position, left it for four or five weeks and then allowed active motion. Passive motion was not employed.

Dr. T. Halsted Meyers commented upon the excellent result and remarked that children were often allowed to go on with fracture at the elbow united in poor position in the belief that they would outgrow the disability in great degree which was true, but it was better to correct the deformity entirely, even resorting to open operation when necessary. He called attention to Dr. Lloyd's excellent reports.

Coxa Vera.—Dr. Townsend presented a boy, aged 14 years, with the history that three years ago, without apparent cause, he began to limp and noticed that one leg was a little shorter than the other. The condition increased and he has had some pain. There was one inch of actual shortening. Radiographs were shown. He diagnosticated coxa vera of the ordinary type. He said there were two points to note; one, good flexion and extension with little adduction; the other, the smaller size of the limb. He showed another skiagraph of a patient in whom he had made the diagnosis sometime ago of coxa vera. In this case under observation for three years there had been a progressive shortening of about ⅛ to ¼ inch each year, now amounting to ¾ inch.

Dr. Whitman called attention to the importance of the limitation of motion, that although the patient still retained ten per cent. of abduction, there was an apparent shortening of two inches. This shortening and consequent disability was due to the limitation of abduction. This deformity might be overcome, after preliminary stretching of the contracted muscles, by a cuneiform osteotomy at the base of the trochanter which would reestablish the angle of the neck and thus relieve the strain upon it. He advised this operation in Dr. Townsend's patient, though the best results were to be looked for in younger patients, or at an earlier stage of the deformity.

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Dr. Elliott asked Dr. Whitman how large a wedge of bone he would remove.

Dr. Whitman suggested cutting a paper model of the bone as shown in the skiagraph, and measuring on that the size of wedge to be cut out; he thought one with a base of ¾ of an inch would be sufficient in the case under discussion. The actual increase in length of the limb would be slight, possibly ½ inch; the important point was that there would be no apparent shortening, because there would be complete relief of the limitation of motion which caused the apparent shortening.

Dr. Townsend said he had performed the operation referred to by Dr. Whitman in two cases with good results and saw no reason why it should not be done in this case. In one patient, however, a little girl aged 7 years, who had slight coxa vera, he had applied a traction splint and did not see in this particular case why it was not as good as the osteotomy advised by Dr. Whitman. He thought apparatus worn for a few years would give good results in the mild cases.

Dr. Meyers agreed with Dr. Townsend that it would be better in the beginning of these cases to use some sort of supporting apparatus that would not need bandage or plaster, thus avoiding pressure atrophy. He thought the Campbell brace especially adapted for such cases. It removed part or all of the body weight and was inconspicuous.

Dr. Taylor said that this brace reminded him of the Dow's brace which was valuable when it was desirable to use a perineal crutch and allow motion at the knee. He cited cases which had done well under the use of the hip splint, but could not give final results as the patients had not returned after treatment was discontinued. He had recently seen a case of coxa vera in consultation when four out of six surgeons consulted were in favor of the splint treatment.

Dr. Whitman did not favor the use of apparatus as a routine treatment, believing that after its discontinuance the distortion was likely to increase and the nutrition of the parts was likely to be lessened rather than increased by the use of braces. He had been disappointed in the final effect in cases in which apparatus had been used. Finally, braces could not rectify the deformity, at best would but relieve the symptoms and check progress. His operative results had been satisfactory. The patients after operation did not limp. Nearly all of his operative cases were between the ages of six and ten years.

Dr. Louis A. Weigel, of Rochester, N. Y., thought apparatus might be used to advantage in the earlier stages of coxa vera for the removal of superincumbent weight which is an etiological factor. He believed the difference in size of the femora as shown in the radiographs was due to a true atrophy or arrest of development. If coxa vera is due to defective nutrition, development of the affected side would be retarded.

Fracture of the Neck of the Femur.—Dr. Townsend presented a man, nineteen years of age, who in December, 1899, fell a distance of 40 feet, striking on his hip. A diagnosis of contusion was made at the hospital to which he was taken where he remained in bed six weeks, at end of which time he could not walk except with the aid of crutches. He came to Hospital for Ruptured and Crippled in April, 1900, and a diagnosis of fracture of the neck of the femur was made. There was one inch of shortening, inversion of foot, crepitation at site of fracture when movements were made. Extreme pain and inability to bear weight on the limb or lift it from table when lying on his back. A long traction hip brace and a high shoe were applied and worn for six months. The man can now walk with little or no pain, and when lying on his back can raise his leg nearly as well as on the sound side. There is one inch of shortening, no crepitation at hip and all motions are possible without pain. Dr. Townsend thought traumatic coxa vera could be applied to this case.

Dr. Meyers thought the case very encouraging. He had presented a similar case some time ago in which bony union had been secured after four months of non-union. In all cases of fracture of the neck of the femur, an earnest attempt to get bony union should be made. In recent cases even in old people with proper splints one would succeed many times. In old people in whom there had been fracture without real immobilization for many months, the case was not hopeless under proper treatment.

Congenital Absence of Bone.—Dr. Weigel also presented a series of radiographs showing congenital absence of bones in members of the same family. In the five extremities shown, some bone of the hand or arm was absent. In one case, there was a rudimentary humerus, an imperfect thumb and three fingers. The mother had no thumb and gave a history of having borne twelve children, four of whom were deformed. The mother attributed her own deficiency to maternal impression, stating that her mother while pregnant was shocked by seeing a man at her house without a thumb.

Osteomyelitis and Tuberculosis.—Dr. Weigel exhibited another radiograph of a case of extensive osteomyelitis involving the whole of the tibia on one side. The patient had been treated for articular rheumatism. He thought it possible in most cases to make the differential diagnosis between marked suppuration and thickening or eburnation. When there is pus formation, he stated that it is difficult to get a clear definition of bone structure in a radiograph on account of the osteoporotic condition usually present.

Dr. Weigel also exhibited a radiograph of a tuberculous focus in a child's foot, together

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with another radiograph taken two months later, showing the repairative process already well under way. This patient was treated by fixation and rest, any radical surgical interference being contra-indicated.

Dr. Townsend asked for a differential diagnosis between sarcoma of bone and osteomyelitis.

Dr. Weigel said that such a differential X-ray diagnosis might be difficult to make without an opportunity of comparing a series of cases.

Dr. Elliott showed a skiagraph of congenital dislocation of the hip which was taken after only fifteen seconds of exposure. The shortness of time exposure was important. With restless children long exposure was often impossible without an anesthetic.

THE MEDICAL ASSOCIATION OF THE GREATER CITY OF NEW YORK.

Stated Meeting, Held February 12, 1901.

The President, Robert F. Weir, M.D., in the Chair.

Menorrhagia in Young Girls.—Dr. P. F. Mundé was to have spoken on Uterine Hemorrhage: Its Causes and Significance, but was prevented by illness and his place was taken by Dr. W. Gill Wylie. Dr. Wylie thought too little attention was given to the proper establishment of menstruation, which is apt to be interfered with by study and, in the better classes of society, by social distractions. The hygienic care of young girls should be quite different from that of boys, and is of much greater importance. It is essential that the girl should be in complete health. If she is weak and anemic she ought not to menstruate at all. In such conditions of the system, however, the uterus is the easy prey of disease. The endometrium is apt to become abnormal. Fungous growths are developed, and, in consequence, the menstrual flow is excessive. It is too often lost sight of that in an enfeebled system the amount of menstruation ought to be less than in the case of a healthy girl.

Metrorrhagia Due to Neoplasms.—The two great varieties of neoplasms causing hemorrhage are carcinoma and fibroids. Neoplasms are most important after the age of forty. It has been the too-generally-accepted opinion that the menopause alone will cause abnormal flow. The fact is that the flow is not excessive except when disease is present, and the form of the disease is especially likely to be cancer. It should not be forgotten, too, that when taken in hand early cancer can be more successfully treated in the uterus than in any other part of the body, on account of the freedom from glandular complications. Unfortunately, the opportunity for this is too often lost, either because the patient, regarding the hemorrhage as merely incidental to the menopause, does not seek medical advice at all, or, if she does, because the physician is of this opinion also.

Metrorrhagia Due to Inflammatory Processes Within the Pelvis.—Dr. E. B. Cragin said that the three factors concerned are the endometrium, the muscle-wall of the uterus, and the blood-vessels of the organ. Acute endometritis is usually of bacterial origin, while chronic endometritis, as a rule, follows upon acute congestion and is not the result of acute endometritis. As to the muscle-wall, if the contractions are normal and unimpeded, the circulation of the uterus and the loss of blood from the organ are normal. If not, these are increased. The two conditions which most commonly interfere are (1) tumors of the uterine wall, and (2) chronic interstitial inflammation, causing atrophy of the muscle-wall. In acute endometritis rest is the most essential thing. In chronic, curettage is usually the best treatment. In cases in which repeated curetting fails to check the hemorrhage, the removal of the uterus may be justifiable.

Metrorrhagia During the Puerperal Process.— Dr. J. Clifton Edgar spoke first of the causes of antepartum hemorrhage. In addition to the more common ones of threatened abortion, placenta previa, extra-uterine pregnancy, etc., he said it was necessary to take into consideration the possibility of bleeding from the urethra and from hemorrhoids. Also the possibility of menstruation continuing into pregnancy, and even, in exceptional instances, throughout the course of pregnancy. Hemorrhage due to implantation of the placenta in the lower segment of the uterus is more common than is generally thought. Placenta previa is not supposed to occur before the thirty-second week of gestation; but Dr. Edgar said he had in his possession specimens from a case at the sixteenth week. Intrapartum hemorrhage may occur in both the first and second stages of labor. In the third stage the most important cause of hemorrhage is uterine inertia. It may also be caused by lacerations of the cervix, perineum, etc., and partial or complete inversion is also a rare cause. Secondary postpartum hemorrhage takes place in from six hours to six weeks after the completion of labor, and generally depends on causes operating at the time of labor. It may be due to anything which interferes with the progress of subinvolution, such as incomplete third stage, retention of membranes or blood-clots, displacements, and too early sexual intercourse.

Uterine Hemorrhages Due to Organic Diseases in Other Organs and to Constitutional Disturbances.—Dr. Andrew H. Smith said that hemorrhage due to diseases in other organs was almost always the result of ob-

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structed circulation, as, for example, in affections of the heart and liver. His observation led him to think that women suffering from hemorrhoids were liable to excessive menstrual flow. Abdominal tumors also frequently press upon the veins to such an extent as to cause uterine hemorrhage. In all these cases the cause of hemorrhage was principally mechanical. In speaking of constitutional causes he referred to syphilis as liable to produce a fragility of the walls of the blood-vessels and to changes in the blood itself which tend to promote adhesive leakage in the vessels. The thinness of the blood, as it is commonly spoken of, in anemia, for instance, may result in uterine hemorrhage. Later on, when the anemia has reached a more extreme point, amenorrhea is apt to be caused. In *purpura hæmorrhagica*, where there is an abnormal condition of the blood and perhaps also of the vessels, it is not uncommon to find an undue flow from the uterus. Other causes mentioned were, prolonged lactation, extreme fatigue, scurvy, scrofula and the exanthemata. In typhoid fever there is a special form of hemorrhage, to which the name of uterine epistaxis has been given.

Treatment of Placenta Previa.—Dr. E. A. Ayers said that in many respects this was the most difficult condition to deal with in gestation. The problem was to secure expeditious dilatation, with as little hemorrhage as possible, and the delivery of a living child if practicable. Of the various methods of dilatation he had found the use of Barnes' bag the most satisfactory. Dilatation having been accomplished, the child is to be promptly delivered by podalic version.

Menorrhagia Without Pelvic or Uterine Disease.—Dr. J. R. Nilson said that in cases of this kind the object should be to promote reaction and assist what he termed the resistive forces. This could best be accomplished plished by judicious packing and systemic treatment.

Menorrhagia Due to Fragments of Retained Decidua.—In another class of cases, where there was some tenderness about the uterus, he always used the curette; and here packing should never be resorted to except, perhaps, as a temporary expedient. The whole cavity should by no means be curetted, but simply the rough spot caused by the fragments, which were almost always located in one of the cornua. The sharp curette was the proper instrument to employ, and it should be very lightly passed over the surface until the rough spot was encountered.

Types of Menstruation.—Dr. A. Brothers said that the practitioner sometimes saw various types referred to, such as the two-weekly type, the three-weekly type, the four-weekly type, etc. There was, however, but one normal type, *namely*, the four-weekly one, and when he read of anticipated or delayed periods he knew that there was in reality some underlying pathological condition.

When Tamponing Is Justifiable.—Dr. A. Flint, Jr., said he did not believe the tampon should often be used in ordinary menorrhagia, but there were a few exceptional cases in which the condition seemed to be of the nature of hemophilia and in which its use was attended with the best results. For instance, he had regularly tamponed one woman at each menstrual period for the last five or six years, simply for the purpose of saving her blood. As a result she had gained greatly in weight and had grown strong and healthy.

The Abuse of the Tampon.—Dr. Wylie thought the tampon had been greatly abused, and said he would not resort to it except in such cases as Dr. Flint had referred to. If it is successful in checking the flow, the uterus is apt to become distended and the blood which cannot escape through the cervix is forced out through the *ostia interna*, with the result of causing such evils as cellulitis, local peritonitis and ectopic gestation.

NEW YORK NEUROLOGICAL SOCIETY.

Stated Meeting February 5, 1901.

The President, Joseph Collins, M.D., in the Chair.

Locomotor Ataxia Trained by Fraenkel Method.—Dr. A. Wiener presented this man. He had been under this system of training for about one year, and while ataxia was still present, he had been very greatly improved, and was now able to go about even at night unaided. There had been no other treatment for the tabes.

Sarcoma of the Brain.—Dr. A. Wiener also presented a pathological specimen from a patient, seventeen years of age, who had first come to him about November 1, 1898. There was an absolutely negative history of alcoholism or syphilis. About two years before this time the patient had suffered from a severe fright, and almost immediately thereafter had had a severe convulsion. Nothing further had been noticed until the summer of 1898 when she had suddenly developed a difficulty of speech, with right facial palsy. She had frequently suffered from bad headaches for three months previously. On coming under observation there had been excruciating pain over the occipital region, complete deafness in the right ear and a bulging of the tympanic membrane. The right sternomastoid muscle had been in a state of constant contraction, and there had been a double optic neuritis, most marked on the right side. The voice was hoarse. Neither the upper nor the lower extremities had suffered any loss of power. There was no swaying when the eyes were closed, nor was there any bladder trouble. Her temperature was

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100° F. The seventh, eight, ninth, tenth, eleventh and twelfth nerves were affected on the right side, and the sixth nerve on the other side. On November 8th, a slight ptosis had been noticed, and the twelfth-nerve palsy had become more marked. On November 28th there had been vomiting, vertigo and an increase in the ptosis of the left eye. On December 8th there had been complete third-nerve palsy on the left side, and the headache had been very severe. Having diagnosticated a tumor of the brain the patient had been sent to the Mt. Sinai Hospital. A mass had developed behind the ear, and on aspirating this, it had been found that the case was one of congenital sarcoma. On January 11, 1899, the third palsy had entirely disappeared on the left side, and the swelling behind the ear had grown larger. On January 21st, the patient had suddenly become confused and blind in both eyes. In April it had been decided to open the mass to relieve the pain. By June 30th the patient had been up and around again. In October there had been a complete brachial plexus palsy on the right side. The tumor had kept on growing until almost the size of the patient's head. The patient had died in February 2, 1901, and an autopsy had been performed. The whole tumor had been found below and outside of the brain. In front was a large giant-cell sarcoma which had completely destroyed the sphenoid bone. At the back the tumor had destroyed the occipital bone. The brain was exhibited, and it showed that only the pons had suffered pressure. The tumor had apparently started in the mastoid portion of the temporal bone.

Tendon Transplantation for Deformity of the Hand.—Dr. W. R. Townsend presented a case of this kind, which had been exhibited to the Society about one year ago. It was a case of infantile cerebral palsy. Instruments had been used at the time of birth, but no damage had apparently been done to the exterior of the skull. He had never been able to use the right hand, and it was a typical "claw hand" when the boy came under observation at the age of fifteen years. On December 21, 1899, an incision had been made over the wrist, exposing the tendons. The flexor carpi radialis, the flexor carpi ulnaris and the palmaris longus were divided just above the annular ligament. The hand was then turned over and an incision made on the dorsum of the wrist, and the extensor communis digitorum exposed. A dissection having been made through the interosseous space, the extensor tendon was pushed through, and, being too long, was doubled upon itself. It was then attached to the tendons previously mentioned. The union of the tendons had been satisfactory and permanent. The tendons had not shown any tendency to unite to the surrounding tissues. He was now able to write fairly well whereas formerly he could not even grasp a pen.

Dr. B. Sachs said that he had been deeply interested in this subject, and it was certainly the best procedure that had been suggested for these cases of contracture whether of spinal or cerebral origin. The problem was to split the tendon of the overacting muscles and unite them to the tendons of the underacting muscles, and so restore the equilibrium of power. It had been found prudent not to allow the patient to exercise much or to use electricity until the tendinous union had become very firm. It was unfortunate that this boy was not able to extend his fingers, yet he had secured good extension of the wrist. In spite of the tendon transplantation the boy experienced no difficulty in producing flexion when he desired to do so.

Dr. Schlapp remarked that it seemed to him that the boy's hand was decidedly larger now than when he had seen the case a few months ago.

Neurotic Skin Affection.—Dr. Creighton presented a young woman, of neurotic temperament, who four years ago had had hysteria and typical attacks of *grand mal*. One year ago she had had the grip followed by pneumonia, and this had been succeeded by headaches, aching spine and numbness in the left side. There were severe contractures in the left arm. A small painful tumor had appeared in the left palm, and had been removed by the family physician under cocaine. It had returned, and had been again removed. A galvanic current of 10 milliamperes had brought out a slight redness on the palm. Three days before menstruation a large red spot had appeared on the back of the forearm, and soon afterward several similar spots had made their appearance on the arm. A few days before the next menstruation these spots had returned, and, in addition, a number of large blotches on the left shoulder and on that side of the neck. The whole side was very hyperesthetic. There was slight narrowing of the visual field, and there was left-sided sweating. The speaker said that the case was very similar to one recently reported from Erb's clinic.

Dr. Joseph Fraenkel asked whether there had been a history of malaria, and whether the case might not be looked upon as one of morphea.

Dr. Creighton replied that there was no history of malaria, and the family physician had stated that the tumor which he had removed grew on the nerve. The microscopical examination had been made at the laboratory of the Presbyterian Hospital, and the report had been that there was a slight round-cell infiltration only, no nerve-degeneration being found. The thyroid gland was not enlarged.

Dr. C. L. Dana said that he had seen cases presenting just this appearance, but entirely free from hysteria.

Dr. W. B. Noyes said that four or five skin lesions were closely associated with nervous

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troubles. Herpes zoster, erythema multiforme, Raynaud's disease, all were distinctly related to the nervous system, yet it was very difficult to state the exact relation. It had occurred to him that the element of suggestion regarding the connection with the nerve might be responsible for some of the phenomena present.

Dr. E. D. Fisher said that this could not be properly described as simple hysteria, or as the result of mere suggestion. The eruption was not characteristic of an hysterical state.

Dr. M. G. Schlapp said that these cases had been described before; they had been brought on by suggestion. In this case an injection had been given in the arm, and shortly afterward this dermatitis had first appeared. The eruption was not characteristic of any particular skin lesion, but it closely resembled cases that had been described as hysterical skin manifestations. In typical zoster there was frequently a degeneration of the nerve-fiber itself.

Dr. Sachs said that the case was a very unusual one, and he did not regard it as belonging to the class of hysterical hyperemia. It was certainly a distinct form of skin neurosis. The closest resemblance in the anatomical distribution was to herpes.

Dr. Joseph Collins said that if the girl should develop a pneumonia he would not be willing to call it an hysterical pneumonia; neither was he willing to call this an hysterical skin disease. He was inclined to think it was closely related to morphea.

Dr. Creighton said that a case had been reported very recently in which the gangrenous form had ultimately developed. This case had been described as hysterical. Dr. J. C. Johnston, the dermatologist, had seen this patient and had looked upon the case as hysterical.

Paralysis of the Spinal Accessory.—Dr. Pearce Bailey read this paper. He said that the chief interest of this nerve was surgical. Within the past year two instances had come to his notice of accidental section of the nerve. In most cases the paralysis which results from section was not particularly disabling, but such had not been the case in the instance to which he referred. When the sternomastoid was completely paralyzed the freedom of movement of the head was interfered with, but not totally abolished. In the two cases referred to the disability had been unusually great, and had led him to study more carefully the nerve-supply. It was now regarded as a spinal nerve, pure and simple. The spinal portion of the nerve, represented by the external branch, springs from the upper five segments of the cord. Paralysis of the nerve presents a varying symptomatology according to the site of the lesion. An injury outside of the skull to cause symptoms referable to both branches must be situated directly at the base of the skull. The extracranial lesions of the spinal accessory are confined to the external branch, and are nearly always traumatic. Neuritis in this nerve is rare. A case was cited to illustrate the possible traumatic origin of spinal accessory palsy by injury with a blunt instrument. In two other cases reported the paralysis had been directly the result of operation. In the second case the resulting incapacity had been so great that the right arm had been rendered practically useless for any heavy work. Neurorrhaphy had been performed about six weeks after the operation at which the nerve had been injured, and the ends of the divided nerve had been found separated over one inch. The improvement in motor power had been slow. A reference to literature showed conflicting views regarding the nerve-supply. Dr. Bailey said that the spinal center between the first and fifth cervical segments of the cord was fixed and constant, but occasionally all the axons pass to the muscle by the spinal accessory. Under these circumstances the motor impulses reach the trapezius through the spinal accessory, and hence section of it means total palsy.

Dr. W. M. Leszynsky said that he had seen a patient two months ago who had been operated upon for torticollis. Over one inch of spinal accessory nerve had been removed on the left side without relief, and the function of the muscle had remained perfectly normal. He had seen over an inch of the other spinal accessory nerve removed subsequently, yet the muscle had not been affected at all; hence he had held that it was useless in these cases of spasm to operate upon the spinal accessory nerve.

Dr. J. Arthur Booth said that he had had a case of spasmodic torticollis operated upon by section of the spinal accessory nerve. A little more than one inch had been excised, and the sternomastoid and part of the trapezius had been paralyzed as a result.

BOOK REVIEWS.

THE SURGICAL TREATMENT OF CONGENITAL AND PATHOLOGICAL DISFIGUREMENTS OF THE FACE. Abstract of the MUTTER LECTURES of the College of Physicians of Philadelphia for 1900. By JOHN B. ROBERTS, A.M., M.D. The Philadelphia Medical Publishing Co., 1900.

THIS is a very succinct and suggestive exposition of a subject that has been allowed to remain too much in the hands of the charlatan. The fact that the book is made up from the Mütter Lectures is the best proof of its merit. The additional fact that it consists of abstracts only with the omission of all conventional details is the best proof of how useful it may be to the general practitioner. The subject is treated in thoroughly up-to-date fashion.

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RUDIMENTS OF MODERN MEDICAL ELECTRICITY. By S. H. MONELL, M.D. Edward R. Pelton, Publisher, New York.

THIS little manual was prepared on the question-and-answer plan. This makes it necessarily rather fragmentary. It may be advisable to write up the subject in this way for the sake of students, but it ruins the connected treatment of the subject. Considering this disadvantage the little book is well done and comparatively complete. The unfamiliar ideas of electricity are conveyed in a pleasing and always in a plain, accurate and straightforward way.

INTERNATIONAL CLINICS. A Quarterly of Clinical Lectures and Especially Prepared Articles on Medicine, Surgery, etc. Edited by HENRY W. CATTELL, M.D. J. B. Lippincott, Philadelphia, 1901.

THE present number of "International Clinics" is well up to its usual high standard: The opening article is on the United States Pharmacopœia, by Dr. H. C. Wood of Philadelphia. This gives a very good idea of what the Pharmacopœia is and what it is not, and especially what it should not be, and is opportune, since during the year just passed the United States Pharmacopœial convention obtained a legal status by incorporation in the District of Columbia.

One of the striking articles is a characteristic contribution from Professor Potain of Paris on the Indications and Contra-indications for the Use of Digitalis in Treating Heart-disease. While the present volume was in press Professor Potain passed away. His precious lessons at the Charité in Paris are to be no more. Some of his work, especially such as he put in shape for clinical teaching, will surely live as a heritage for our generation at least. This dictum with regard to digitalis is interesting: "Its action in man and in animals may differ. With our patients it may differ in the healthy man and in the sick one, and even in the single patient it may act differently at different times, according to what the disorder may be. Observation alone is able to supply positive indication." This is the true status of our practical knowledge with regard to the use of digitalis.

There are interesting clinical articles on the Treatment of Chronic Gonorrhea by Alexander Renault of Paris; on Mercury and the Systematic Treatment of Syphilis by Professor A. H. Ohmann Dumesnil of St. Louis, and on the Treatment of the Complications of the Syphilitic Chancre by Professor Fournier of Paris. There are also very interesting special articles by Professor Grassi on Mosquitoes and the Prophylaxis of Malaria and on Blastomycetes as the Cause of Cancer by Professor Roncali of the University of Rome. Both these men were largely concerned in making the discoveries in the subjects of which they treat.

This is the second successive volume of "International Clinics" of the present series in which a considerable amount of space has been given up to genito-urinary diseases. It would seem that this narrow specialty occupies too much space considering of how little interest the subject is to a great many practitioners. In each of the last two volumes, moreover, the concluding article is a long monograph. In the present number the monograph is on the Morbid Anatomy of Various Diseases and occupies more than 100 pages. This is such a radical departure from the usual custom of the Clinics that it is very noticeable, and is not apt to meet with much favor among old readers.

DISEASES OF THE HEART; THEIR DIAGNOSIS AND TREATMENT. By ALBERT ABRAMS, A.M., M.D. G. P. Engelhard & Co., Chicago, 1900.

THIS is one of the series of monographs on practical subjects, each of about 150 pages in length, that is being issued by these publishers. This volume is a thoroughly practical little manual. There is in it a tendency to dogmatism that is inevitable, presumably, with text-book methods. The statement, for instance, "As a rule, pulmonary tuberculosis rarely develops in an individual with a valvular heart-lesion," is certainly doubted by good authority.

It is refreshing to find the importance that Dr. Abrams attaches to accidental heart-murmurs. He insists, very wisely, on the fact that heart-murmurs, especially systolic heart-murmurs, very often do not mean an organic heart-lesion.

Dr. Abrams finds a place in his diagnostic category for murmurs of apprehension. He thinks that even diastolic murmurs may be accidental or functional. This is carrying the question of function rather far, especially in the treatment of the subject for students. Diastolic murmurs are almost without exception (if there are really any exceptions) of organic origin. On the whole, the little book is a very suggestive presentation of the cardiology of the day.

PANAMA AND THE SIERRAS. A Doctor's Wander Days, by G. FRANK LYDSTON, M.D. The Riverton Press, Chicago, 1900.

THIS is a very pleasant, breezy story of a doctor's wanderings during a winter holiday. It is not a connected sketch of continuous travel, but a series of good things as seen through a doctor's eyes. Nearly everywhere one finds the doctor's way of looking at things, and there is a sympathetic view of human nature in varying moods that shows the man of large knowledge and large sympathies with Nature's under side.

The illustrations are reproductions of the doctor's own photographs; the book is full of them and none are introduced merely for the sake of adding to the number. The overworked doctor, who has been long sighing for a rest and whose dreams have brought to him passing thoughts of such a journey, will find the book pleasant, but yet unpleasant. One can scarcely help but envy the medical brother who has had the opportunity to see so much and who has seen it with his eyes so wide open.

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THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

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ORIGINAL ARTICLES.

RECENT EXPERIENCES WITH ERYTHROMELALGIA.*

BY HENRY L. ELSNER, M.D.,

OF SYRACUSE;

PROFESSOR OF THE THEORY AND PRACTICE OF MEDICINE AND CLINICAL MEDICINE IN THE SYRACUSE MEDICAL COLLEGE.

AT the meeting of the Medical Society of the State of New York held in 1897, I reported a case of erythromelalgia associated with Raynaud's disease in which there was a prolonged period of agonizing pain in the fingers of the right hand, burning, prickling sensations, the characteristic rose-colored fingers, while the whole hand was covered at the time of acutest suffering with thousands of sweat-drops. The temperature of the hand was always perceptibly increased and the pain was aggravated when the hand hung down; hence it was usually held up firmly by the patient to obtain relief. Finally the terminal phalanx of the thumb became cold, blue and shrivelled. There was a V-shaped line of demarcation, and, after a process of dry gangrene, it separated entirely, leaving the articular surface of the bone clear and smooth. The ultimate gangrene in this case was considered to be the result of secondary vascular change, a conclusion which is strengthened by the overwhelming evidence of changes in the arteries, particularly in the intima, consequent upon long-continued distention or vasomotor paralysis.

The position of the writer was strengthened by the facts which Thoma[10] had brought to our notice in *Virchow's Archiv,* which proved that compensatory changes take place in the arteries which have remained distended for a considerable time, and which in truth are too large for the blood which courses through them. In the case reported it was held that this compensatory effort finally caused complete occlusion in some of the smaller arteries supplying the terminal phalanx of the thumb, and death of the part resulted. The patient suffered but little pain, comparatively speaking, after this event. The hand always remained hot, and when hanging down became rose-colored and uncomfortable. She died of acute tuberculosis in eighteen months after the loss of the thumb phalanx.

All of the symptoms preceding gangrene were positive of the symptom-complex known as erythromelalgia and corresponded exactly with those given by Weir Mitchell and Lannois, whose differential methods were used to make positive the diagnosis. The possibility of the association of gangrene, Raynaud's disease or other necrobiotic processes has been denied by some writers. Among these is Weir Mitchell, to whom we are indebted for the first full consideration of the symptoms to which he finally gave the name of erythromelalgia.

In connection with the history of erythromelalgia, it may be interesting to note that Graves in 1843 described a peculiar condition of the extremities associated with symptoms much like those mentioned by Mitchell in 1872 and 1878, in which he suggested that the nerves and arteries of a part independent of the heart could affect local circulation sufficient to give rise to local symptoms of a peculiar and unique character. It has seemed that the symptoms of erythromelalgia are occasionally associated with processes of a destructive character, either through pathological changes in the blood-vessels, the peripheral nerves or from other causes, which remain purely speculative.

Three cases have been seen since writing my original paper on this subject; two of these cases will be considered carefully, and to these I wish to call your attention at this time. The third case was seen but once and could not be followed. The history, however, justified the conclusion that the patient, a man aged fifty years, without specific history, was suffering from an alternation of erythromelalgia and the first stage of Raynaud's disease. The red neuralgia persisted during several days, when suddenly the marble fingers of Raynaud's disease followed. These conditions had alternated with each other for some time. In this case there was no deep loss of tissue, but at the tips of the fingers there were several cup-shaped depressions showing the loss of epithelium in small plaques.

Case I.—William McM. was seen in consultation with Dr. Jacobson on July 1, 1897. He was sixty-four years of age, married, had been a contractor, vendor and finally a farmer. Thirty-six years ago he contracted syphilis. His subsequent history considerably abbreviated is as follows: In the summer of 1893 he first complained of pain, burning in character, associated with great heat and a prickling sensation in his right foot and most severe in his right second toe. During 1893 and until January, 1894, this pain recurred in paroxysms. It was always of the same char-

* Read before the ninety-fifth annual meeting of the Medical Society of the State of New York, Albany, January 29-31, 1901.

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later and always associated with great heat in the foot and with considerable redness. Early in 1894 the ball of the great toe of the right foot became exquisitely tender and painful. After this date it was noticed that at the time of greatest suffering the foot became hot, rose-colored, and was covered with thousands of sweat-drops, while the veins were always abnormally prominent and the arteries beat violently. It soon became apparent that the patient was worse when the foot was suspended. In 1894 his weight was 220 pounds. Early in 1897 he dropped to 150 pounds.

In June, 1894, he was thrown from his wagon and he supposed (until an examination proved to the contrary) that he had broken his leg. No bruises or scratches on his leg or any other part of his body were found. After this accident the pain was more severe, with all of its former accompaniments, extending to the neighboring toes and radiating upward beyond the ankle. Soon the left foot was involved in a similar process of red neuralgia with hyperidrosis. Both feet had become exquisitely tender and hypersensitive. The patient rested on his back much of the time. Almost from the beginning of the second year of his suffering and until his death there was a fine rhythmic tremor in the muscles of both legs, increasing as the disease progressed, and always increased during the acute exacerbations of pain and while the feet were dependent. With the progression of the disease there was more or less atrophy of the muscles of both legs, more advanced in the right than in the left leg.

Before the patient consulted Dr. Jacobson, he had been unsuccessfully treated by a number of physicians, and numerous diagnoses had been made. During the early days of Dr. Jacobson's treatment cauterization along the spine with large doses of iodide gave transitory relief; later, however, these remedies failed to control the pain and other symptoms. The patient had always been constipated and suffered considerably from gastric and intestinal indigestion.

About January 16, 1897, almost six months before I saw him, the middle toe of the right foot became gangrenous. The process remained dry and the surrounding tissue became dusky, while the appearances of hyperemia continued above these parts whenever the leg was held down. The gangrene advanced upward with increasing atrophy of the muscles of the right foot and leg until, finally, the fourth toe became dusky, and by October 21st much of the tissue of the right foot was gangrenous. All of the toes with the exception of the little one were involved. There was no pulse perceptible in the right dorsal pedis nor in the posterior tibial arteries. The left foot remained erythromelalgic without gangrene. Careful examination of the patient failed to give evidences of spinal or other central disease. The eyes as well as all the superficial and deep reflexes were normal. Physical examination on July 1, 1897, gave ample evidence of far-reaching arteriosclerosis. This degenerative process included the aorta, and wherever the arteries were palpable there was no difficulty in detecting the characteristic unevenness and their abnormal resistance. There was slight hypertrophy of the left ventricle. Urinary examination proved negative.

Long before I saw the patient his suffering became so acute as to keep him in bed with his head low and his feet in the air on a mountain of pillows. It was impossible to use the esthesiometer. The slightest pressure or draft intensified his suffering, and large doses of opiates were successful, with the posture treatment after July, 1897, in relieving only slightly the acute and persistent pain. With these symptoms the patient died of exhaustion January 5, 1898.

This is the history of a case of erythromelalgia covering a period of five years, with ultimate gangrene of the right foot, and with a persistence of rose neuralgia in the left with an underlying specific history and far-reaching arterial disease.

Case II.—On January 8, 1897, through the courtesy of Dr. Jacobson, Miss F., aged thirty-nine years, a tailoress, was referred to me. Her mother was living at that time, but has since died at the age of sixty years of cancer of the stomach. Her father died of diphtheria when thirty-three years old. She has two sisters who are living and are healthy. There were no evidences of neuropathic tendency or specific taint. She worked on heavy clothing, probably in an unfavorable environment. Her suffering commenced over sixteen years before I first saw her. During all these years she had the characteristic symptoms included in Weir Mitchell's original description of red neuralgia or erythromelalgia.

Her pain commenced in the palmar surface of the terminal phalanx of her left index finger. In addition to a severe paroxysmal neuralgic pain in this finger she complained of continuous discomfort; and early in her history it became evident that when the finger hung down it became rose-colored; paroxysms of intense suffering followed, with a burning, prickling sensation; there was throbbing and swelling, while the entire hand, more particularly the index finger, felt abnormally hot and soon became covered with innumerable sweat-drops. She noticed too that the pain was worse during menstruation, and that as time wore on the paroxysms became more frequent, the veins of the fingers and hand during the exacerbation of pain increased in size, while the arteries beat with increased force. Soon the index finger became hypersensitive and hyperalgesic, and there was a

fine rhythmic tremor involving the entire hand, more violent in the index finger.

During all these years and until the final radical treatment this tremor persisted. To prevent the extreme agony which finally became unbearable, this unfortunate girl worried through almost twenty years, holding her hand during her waking hours that it might not be brought in contact with any object, and that she might be spared the added suffering which was sure to follow when her hand was suspended. Her entire left arm remained unused and there was more or less atrophy, including the interossei. The smaller joints were stiffened. At times there were clonic spasms of the flexor muscles of the fore-arm. The greatest sensitiveness was found about the nail of the index finger. Cutting the nail increased the pain. The slightest touch with the points of the esthesiometer provoked pain and perceptibly increased the tremor. Heat aggravated the pain, while cold during the first few years seemed to give relief. Later, nothing ameliorated the acute suffering save the holding of the hand quiet in an upright position.

After this erythromelalgic condition had persisted for about ten years, there were two superficial ulcerations involving the skin on the palmar surface of the first and second phalanges of the index finger. These finally healed, leaving slight depressions covered with normal skin. The necrobiotic process was without influence on her pain; the finger continuing red and congested.

When she came to me there was no time when the index finger was without erythema or tremor, or when the hand was not abnormally hot and sweat-covered. About five years ago a small circumscribed gangrenous patch involving the tip of the painful finger appeared, which left a slight depression to be finally covered with normal skin. On this depression there was a deposit of horny epithelium, which renewed itself rapidly and broke off in plaques. A skiagram showed no changes in the bones of the hand. Hyperesthesia both of depth and surface was augmented.

Desperate, willing to make any sacrifice which might lead to relief, she consulted me in August, 1900. The symptoms were not materially changed from those already described. The esthesiometer could no longer be used because of increasing sensitiveness. The knee-jerks were noticeable in both legs; no ankle clonus present in either foot. The muscles of the arm and forearm gave normal response to electricity. All degrees of heat or warmth applied to the troublesome finger were overappreciated; there were no eye symptoms; the mental condition had always been normal; there were no symptoms referable to the lower extremities. The localization of the greatest pain in the index finger, its persistence during many years without evidences of brain, spinal or other peripheral involvement, the futility of medical treatment, seemed to justify surgical interference. Amputation of the index finger below the erythematous area was advised. Dr. Jacobson concurring, the patient readily consented. It was thought wise to sacrifice part of the metatarsal bone, which, as the result proved, made the ultimate deformity less prominent.

The improvement in the condition of the hand, and the return of the patient to a life of usefulness after a long period of suffering justified the sacrifice of the finger. There has been no pain in the hand during the past eight weeks, the patient has gained in weight, the tremor has disappeared except when fatigued, and to all appearances *the offending factor was removed with the finger.*

Dr. Steensland, to whom the finger was sent for examination, reported as follows on the microscopic examination of the specimen: "Tissues were hardened in Zenker's fluid. Sections were cut from the skin in the region of the second phalanx and at the tip of the finger, including the horn-like outgrowth; from the vessels and nerves at the base of the finger; and from the muscular tissue of the corpus. Sections were stained in hematoxylin and eosin. Sections of the nerves were also stained by Van Gieson's method for the central nervous system." "There is occasional slight thickening of the intima of both the large and the small arteries. About the small arteries are occasional foci of infiltration with lymphoid cells. Veins are apparently normal. The horn-like outgrowth occupies a slight depression in the general surface and consists of a thickening of the horny layer of the epidermis. Careful examination of the nerves, Pacinian corpuscles, sweat-glands, hair-follicles, and muscles shows nothing apparently abnormal."

A study of the cases reported casts no doubt upon the diagnosis of erythromelalgia. In speaking of the diagnosis of erythromelalgia, Weir Mitchell makes the following statement after giving the histories of two cases, one, a case of erythromelalgia, the second, one of Raynaud's disease: "Surely, no two more entirely separate groups of symptoms could be found; this cold, white hand, with its pale fingers, free from pain of any moment and more or less anesthetic, and now presently livid; this hot, deep-red foot, so painful that its torment brings out the sweat on the sufferer's brow."

In the cases here reported the destructive processes were not preceded by the corpse fingers or toes, but with opposite conditions, long-continued, and always associated with the circulatory changes which Weir Mitchell has aptly described as a "true vascular storm"; thus agreeing in every particular

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with the original and subsequent description by Mitchell with, however, the addition of the gangrene and superficial loss of tissue.

The bibliography and references appended prove that our experience with erythromelalgia is not as yet a large one. In all probability, if all the reported cases were carefully scrutinized, we should not find their number much above 50. Among these there are, however, including my original case and those of this paper, ten or eleven which bear directly upon the association of the processes which are held possible in this paper. Morell-Lavalle[41] reported a case in which the symptoms of erythromelalgia alternated with those of partial local syncope. Mills[88] had the case of a woman aged twenty-three years, who after two years of persistent erythema of the extremities developed symptoms resembling the milder Raynaud phenomena. Dehio's[13] case has been frequently quoted. A small portion of the ulnar nerve above the wrist and an equally small piece of the ulnar artery were resected. In five months the tip of the little finger of the left hand became black and a small piece of bone with pus and blood escaped. In this case microscopic examination showed marked changes in the intima, which materially narrowed the lumen of the vessel. *There were no changes in the nerve.* Kahane[80] reports a case in which, as in the second case reported in this paper, there were superficial ulcerations, depraved nutrition of the nails and rhagades.

Sachs and Wiener[55] report the case of a man in middle life, without any evidence of other nervous or arterial disease, in which erythromelalgia developed in the left foot, and in which there was finally a dry gangrene of the second toe with a threatening gangrene of all the other toes. Amputation was followed by a satisfactory recovery. Sachs[55] says that he has met two cases of erythromelalgia associated with gangrene of the toes, and adds: "We must therefore modify Weir Mitchell's account and claim that in extreme instances of this disease gangrene may occur." In Wiener's[55] report of the microscopic examination, he says, "There is a marked arteritis affecting all the coats, but more particularly the intima." There were a few degenerated nerve-fibers, but the nerve-changes "were relatively slight."

Rolleston[58] reports the case of a man, twenty-nine years of age, with symptoms which have "affinities" with both Raynaud's disease and erythromelalgia. The symptoms of Raynaud's disease were atypical. There was redness of the hypersensitive skin, made worse by heat and relieved by cold. Johannssen's[86] case reported by Oppenheim shows the association of erythromelalgia and Raynaud's disease, while Potain[87] has reported a case in which, as in the first case reported in this paper, there was gangrene on one side and erythromelalgia on the other.

In the first case here reported the underlying pathogenic factor was certainly the specific and sclerosed arteries. However slight the changes found on the miscropical examination of the arteries in the second case, the subsequent cure and the absence of changes in the nerves must prove that these were sufficient to cause the symptoms. It is an interesting and noteworthy fact that, in most of the cases in which microscopic examinations have been made, the greater changes have been found in the arteries, while the nerves have been only slightly or not at all changed.

The results of Sternberg's[85] experiences collected in his recent article on "Endarteritis und Endophlebitis Obliterans und ihr Verhältniss zur Spontane-Gangraen" are corroborative of the great rôle which the arteries play in these cases. His paper is a convincing contribution to the subject, for it is founded on the careful pathological study of six cases; five of these were young subjects in whom spontaneous gangrene resulted, while in some of the cases the erythromelalgic symptoms were an accompaniment; in all, however, the microscopical examination revealed more or less endarteritis obliterans *without change in the accompanying nerves or terminal plates.* The pains as a rule were worse at night and were aggravated by heat. The greatest changes were found in the intima.

Sternberg[85] concludes as the result of his investigation that the "cause of spontaneous gangrene is a fundamental endarteritis obliterans, which is provoked by a variety of noxious changes upon a weak and tardy local circulation with ultimate hypertrophy of the muscularis and an active tissue-overgrowth of the intima." Thoma's[70] original experiences, in which secondary arterial changes were found to take place and which have already been mentioned in connection with the case reported in a former paper, are corroborated.

The failure to find microscopic changes in the nerve-structures of a finger in which pain and other sensory symptoms have been in the ascendency during a period of twenty years is indeed surprising, but it is not at variance with the experiences already mentioned. Indeed Sachs[55] ends his paper with the statement that "surely erythromelalgia is as much an arterial as a nerve disease."

How do we account for the pain in these cases? In 1893 Nothnagel[82] and in 1894 Laache,[81] in considering pains of so-called vascular origin, called attention to the fact that the adventitia of arteries contained Vater-Pacinian bodies; and to this sensory terminal apparatus they pointed as the origin of the pain in these cases. Schlessinger's[83] theory is not tenable in our cases. He says that in these scases the *vaso nervorum* are de-

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generated and finally cause the pain. This may occur, but in the cases reported and in those examined by Sternberg[65] there was no such process. It is not uncommon for circulatory disturbances to cause pain by irritation of the sensory end apparatus in the skin. Erb[77], in his article on "Intermittent Claudication and Other Nervous Disturbances Following Vascular Changes," agrees that endarteritis is the cause of the pain.

The differential diagnosis of erythromelalgia and acroparesthesia must be considered. The latter condition first brought to our notice by Nothnagel[82] in 1867, later by Schultze[84] in 1890, resembles erythromelalgia only because of the presence in both of paresthesia and hyperesthesia. In no other particulars are these conditions similar. Acroparesthesia is associated with numbness and falling asleep of the fingers and formication. There are but few objective sensory disturbances; oftener there are none. There are no vascular symptoms; there is considerable motor weakness; if there is change in the color of the fingers, they are pale, not red; the hands are abnormally cold; in some cases the temperature is reduced from ½° to 2° C. Friction, walking and movement of the parts reduce the discomfort, while in erythromelalgia these aggravate the torture. There is greater intermission in the symptoms in acroparesthesia, while in erythromelalgia they finally become continuous; in erythromelalgia the reflexes are exaggerated, while in acroparesthesia they are normal. The vascular storm is absent in the latter; decidedly in evidence in the former. Of 162 cases of acroparesthesia 150 were women; only 12 were men. The majority of cases of erythromelalgia are found in men. Acroparesthesia affects anemic, cachectic and overworked adults; in middle life and women at the climacteric, particularly those who work in cold water. In erythromelalgia there are, besides the predilection of the disease to attack the lower extremities, complications referable to the digestive system with far-reaching central, spinal or peripheral changes in many cases.

At the present time erythromelalgia cannot be dignified as a disease *per se*. Scanning the literature which has accumulated, we are surprised to find the great variety of diseases which claim erythromelalgia as an attendant.

In addition to the cases to which the writer has referred, the following are noteworthy: Schenck's[60] case with ascending degeneration of the posterior columns of the cord; Woodnut's[75] case was associated with myelitis; Collier[12] reports 10 cases associated with various spinal, system and indiscriminate lesions; Auerbach[3] reports two cases, in one of which a postmortem examination revealed degenerative changes in the posterior nerve-roots of the lumbar and sacral nerves without degeneration in the cord substance, while the blood-vessels were found normal. This is the only postmortem of a case of erythromelalgia on record. Nieder[44] reports a case of erythromelalgia with eye symptoms prominent, choked disc with vascular dilatation, Eulenberg[18], one case of brain tumor with hemorrhagic retinitis, and consequent changed visual field; Hoffman[79] mentions an interesting case of acromegaly associated with erythromelalgia, in which the patient was twenty-three years of age. She had had erythromelalgia since her sixth year, when finally the characteristic changes in the hands and feet of acromegaly followed; Henoch's[26] case was one of erythromelalgia following hemiplegia and hemihyperidrosis, death finally resulting from angina pectoris[78]; and Levy[81] reports a case resting on a hysterical basis, cured by hypnosis, in which erythromelalgia was associated with Raynaud's disease.

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THE TREATMENT OF THE HEART IN TYPHOID FEVER AND OTHER INFECTIOUS DISEASES.

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THE maintenance of cardiac vigor is always a source of anxiety in the treatment of typhoid fever, pneumonia and other infectious diseases. Since the inauguration of systematic hydrotherapy in typhoid fever, no experienced physician can gainsay the life-saving functions of this therapeutic method. While the antipyretic effect of the cold bath is a recognized factor in treatment, it must be regarded as possessing only a secondary influence. The chief action of the bath is on the circulatory system. By maintaining the vigor of the latter apparatus, we succeed in providing for the necessary resistance to the typhotoxins. Despite the salutary effects of the cold bath, we are constrained to recognize the following disadvantages: (1) The apparent brutality of the method; (2) the discomfort and suffering attending its employment; (3) the difficulty often encountered in its employment in private practice; (4) the hardship and the necessary assistance in executing the method; (5) the occasional collapse symptoms following the method.

There is no therapeutic method which is universal in its application and individualization is as imperative in typhoid fever as it is in other diseases. Whenever an error is perpetrated in the hydrotherapeutic treatment of typhoid fever, it is most emphatically in the direction of misinterpreting the effects to be attained by the use of the cold bath; and such an error is always in evidence when the thermometric curve and not the condition of the heart is taken into consideration. No matter how decided the antipyretic action of the bath, if cardiac vigor is compromised or fails to be improved, the end result of hydrotherapy is defeated. The cold bath may temporarily overcome the lethargy or even inhibit the delirium and nervous symptoms yet withal, such results are achieved through the agency of shock and not through the legitimate channel of stimulation of the nerve-centers presiding over important functions. I have frequently witnessed the employment of cold baths in the treatment of typhoid fever by practitioners with dogged pertinacity despite alarming heart-collapse symptoms, the finality of the procedure taking only into account a reduction in temperature; and, when the latter condition had been achieved, the cold bath was regarded as effective.

The following theories have thus far been advanced in explaining the action of the cold bath in typhoid fever: (1) It possesses a powerful stimulating action on the circulatory apparatus and nervous system. (2) It exerts an antipyretic action. (3) It stimulates the nerve-centers presiding over the functions of respiration, circulation, digestion, nutrition and excretion. (4) The flux and reflux of blood between the periphery and viscera are facilitated. (5) Leucocytosis is produced.

Until we are willing to dismiss antipyresis as the great desideratum in the treatment of typhoid fever, we cannot hope to achieve any better results in this disease than are at present obtained. A departure from the conventional method of treatment, however, appears easier owing to the tendency in recent years to discredit the advantages accruing from antipyresis, hydro- and pharmacotherapy. In attempting to solve the rationale of hydrotherapy, the theory which most cogently appeals to reason is that which presumes that the action of the cold bath is secured

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by stimulation of the peripheral cutaneous nerves. If the latter theory is correct it needs corroboration and the following observations are adduced in its support. I have endeavored to show in several contributions[1] that we are able by cutaneous irritation to powerfully influence the pulmonic and cardiac vigor by inducing what I have called respectively the lung and heart reflexes. The nature of the cutaneous stimulant is of but little moment, it may be mechanical, chemical or electrical, the result being always the same, namely, dilatation of the lungs and contraction of the myocardium. The physiological results of lung dilatation (*lung reflex*) are the conveyance of more oxygen to the blood and consequently, a better nutrition of the tissues. Myocardial contraction (*heart reflex*) is marked by reduction of the pulse-rate, together with an increase in volume and force. One can be easily convinced of the influence which cutaneous irritation exerts on the action of the heart by auscultating the mitral sounds in a typhoid-fever patient, especially during the stage of convalescence. The slightest pressure of the stethoscope in the mitral area will cause the heart sounds to become feeble or even inaudible. The elicitation of such results is, however, not uniform. There are limited areas which are not responsive to the test while others are. For convenience of description I will refer to the latter as cutaneous cardio-inhibitory areas.

To relinquish hydrotherapy as conventionally employed, the surrogate suggested must possess certain advantages and I believe that by the use of balneotherapeutics after the Schott method, such advantages can be attained. I know of no means better adapted for maintaining the vigor of the heart in typhoid fever, pneumonia and other infectious diseases, than the use of the carbonated baths. The reduction in temperature after the carbonated baths is relatively slight. Such reduction is evoked by dilatation of the cutaneous vessels, thus increasing heat-radiation. If we are disposed to disregard the effects of the carbonated baths on the temperature, we will observe decided advantages in favor of the baths. If, however, we regard temperature reduction as a necessity, then we may alternate the carbonated with the cold baths or we may even incorporate the ingredients necessary for generating the carbonic acid, in the cold bath. I have frequently observed that, when heart-collapse signs follow the cold bath, they may be prevented most effectually by the means just suggested.

Recognizing, as I do, that the salutary effects of hydrotherapy are provoked essentially by cutaneous stimulation I have had recourse in the treatment of a few cases, to a procedure which for convenience is called a *friction bath*. The method is succinctly as follows: The patient is first rubbed or sponged with alcohol and this is followed by vigorous cutaneous friction until the skin glows. The results of this method are at once evident in the circulatory apparatus and nervous system. The following is a typic record taken by the nurse in a typhoid-fever patient on the thirty-sixth day of his disease. Pulse records were made at five-minute intervals following the friction bath.

TIME.	PULSE.	TEMP.	RESP.	REMARKS.
1:30 P.M.	100	100.1	18	Pulse previously dicrotic and difficult to count; has lost dicrotism and is easily counted.
	100			
Friction bath.	96	100.2		
	90			
	90		18	
6:00 P.M.	120	102.8	24	
	118			Slightly delirious.
Friction bath.	116			
	100	102.4	18	
7:00 P.M.	90	102.8	18	
	88			Quiet and restful.
Friction bath.	86			
	84	102.7	18	

The friction rub was ordered whenever the temperature was above 102.6° F. or when the heart showed evidence of enfeeblement. The latter sign was elicited by reference to the intensity of the heart sounds by means of a stethoscopic attachment which I have called the stethophonometer.[1]

In nearly all the cases where the friction bath was employed in lieu of the cold bath, the temperature reduction was slight, but the stimulating effects on the heart and nervous system were pronounced. I wish parenthetically to show how suggestion even enters into the prosaic pursuit of nursing. I instructed an intelligent nurse to keep a record of the pulse in a case of typhoid fever, and the following was the result: Before friction bath, pulse counted at five-minute intervals, 92, 90, 96, 100. After friction bath, 96, 98, 104, 108.

On expressing surprise at the record, which was contrary to my expectations, she replied, "I supposed that is just what the friction bath would do. On the following day she gave me the following record: Before bath, 94, 92, 96, 98. After bath, 80, 78, 72, 68.

The latter record was also a disappointment and on the same day, I made her repeat the record with the same results. A control record, made by myself immediately after, demonstrated that the nurse had erred most grievously; her desire to please me as she supposed caused her to err to the extent of about 8 pulse-beats on an average per minute. I believe that the real benefits from the natural or artificial Nauheim baths are dependent on cutaneous stimulation by the billions of gas-bubbles contained in the carbonated baths.

Of late, I have employed with excellent results, not only in the treatment of typhoid fever and pneumonia, but in chronic diseases of the heart, a procedure which I have called the *siphon method*. It is suggested for its simplicity and efficiency. The patient is prepared in the usual manner for taking a sponge bath and beyond this no disturbance of the patient is necessary. Then a siphon bottle containing the carbonated liquid

[1] MEDICAL NEWS, Jan. 7, 1899.
Philadelphia Medical Journal, Jan., 1900.
New York Medical Journal, Jan. 13, 1900.

[1] Made for me by the Shoenberg Electrical Co., San Francisco.

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is gradually discharged over the surface of the body, notably on the thoracic region. If one wishes to comply with the requirements of the Schott system, although stimulation is not so pronounced, the siphon bottle may before use be immersed in hot water until the requisite temperature is attained. Within a few minutes, one may note after the employment of the siphon method, a reduction of the pulse from 10-20 beats a minute which rate is maintained for a varying period of time. The pulse becomes likewise endowed with more strength and there is a feeling of exhilaration such as rarely obtains after the cold bath. Pulse-tracings taken in a convalescent typhoid patient, with an extremely weak heart, have demonstrated the favorable action of the siphon method.

A REPORT OF THREE CASES OF THORACIC ANEURISM TREATED BY SUBCUTANEOUS INJECTIONS OF GELATIN.*

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THE announcement by Lancereaux[1] in 1897 of his results in the use of subcutaneous injections of solutions of gelatin in the treatment of five cases of aneurism of the aorta has, very properly, excited wide interest and, also, no inconsiderable amount of discussion. The use of gelatin for this purpose was suggested to him by the observations of Dastre and Floresco[2] who found that gelatin when introduced into the blood produced a very marked heightening of its coagulative power.

It is not my purpose here to discuss generally the use of gelatin injections in aneurism. The whole subject has recently been carefully reviewed by Sorgo,[3] Ewart[4] and Futcher[5] of Baltimore. The last-named also records his results in nine cases of aneurism treated in the Johns Hopkins Hospital. My object is simply to relate my own experience with this therapeutic measure in three cases of thoracic aneurism which have come under my care during the past year at the Hudson Street Hospital. I must say, at the outset, that in none of the three cases was it possible to carry out the treatment sufficiently long to draw any definite conclusion of its value as a curative agent. The experience was sufficient, however, to demonstrate certain objections to the method and certain difficulties in the way of its administration.

Lancereaux's directions are that a solution of 4 or 5 grams of white gelatin be made in 200 c.c. of normal salt solution and that this be sterilized in a flask at 120° C. Separate samples of this are kept at 38° C. for several days and those specimens which become turbid or fail to solidify on cooling are discarded. Of this two or two-and-a-half per cent. solution 200 c.c. are injected into the subcutaneous tissue of the thigh. After injection the patient is kept absolutely quiet. The aneurism should not be palpated. The injections are to be repeated every six or eight days and should be continued until 15 or 20 have been given. Lancereaux thinks this method applicable chiefly to saccular aneurisms.

Huchard[6] believed the two-per-cent. solutions of gelatin to be rather dangerous, in that they tended to produce too rapid coagulation, and preferred to use a one-per-cent. solution. The same view was later taken by Lancereaux, who used the one-per-cent. solution in somewhat larger quantity (250 c.c.). In each of my own cases the initial injection consisted of a two-per-cent. solution, and the subsequent ones of a one-per-cent.

Lancereaux states that such injections cause no pain and produce neither local nor general reaction. These statements have not been entirely confirmed by most of the other investigators, nor do they correspond with my own experience.

Case I.—Aneurism of Descending Portion of Arch. Three Injections. No Improvement. Death from Rupture into Esophagus. Autopsy. An Italian laborer, aged fifty years, was admitted to hospital April 6, 1899. He denies syphilis and alcoholism, and has always had a laborious occupation. For two years he has been troubled with burning pain in the left side accompanied by a whirling, gurgling sensation. Describes pain as passing from precordium around left side to region of scapula. Of late has been obliged to sleep in sitting position because of dyspnea. On admission his temperature was 98° F., respiration, 28, pulse, 108.

Physical Examination.—Fairly nourished, muscular man. Face anxious. Respiration moderately rapid. Cutaneous veins over left side of chest and left arm and shoulder prominent and tortuous. Over back of chest between angle of left scapula and vertebral column is a slightly projecting, rounded pulsating tumor. Pulsating area measures 6 cm. in diameter. Near the center of this area is a projecting spot 2 cm. in diameter.

Palpation.—Apex beat in fifth space, 10 cm. from median line and rather feeble. No other pulsation anteriorly. Behind, pulsation over area described. Most marked over the prominent center. Gentle palpation reveals erosion of ribs corresponding to this protruding center. No tracheal tugging. Radial pulses synchronous and of equal size. Arteries thickened and tortuous.

Percussion.—Dulness everywhere behind sternum and to a short distance on either side of the manubrium sterni. Below this dulness blends with area of cardiac dulness. Behind, on left side, well marked dulness from third dorsal spine to 1 cm. below angle of scapula.

Auscultation.—Over upper left chest inspiratory murmur almost lost; expiration of soft bronchial character. Behind, over left chest, as far down as dulness extends, absent breathing

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and distant voice. Heart sounds as follows: At apex first sound muffled and prolonged; soft blowing systolic murmur over third left space. Urine normal.

There is profuse expectoration of greenish, purulent blood-stained sputa. For ten days after admission there was slight gradual improvement in cough and expectoration. April 21st all other treatment stopped. Injection of 185 cm. of two-per-cent. solution into left thigh.

On April 26th and May 1st, injections of one-per-cent. solution were given. These were all followed by slight local discomfort and by some temperature. As a result of these injections no change either in physical signs or in subjective symptoms, could be recognized. Four days after third injection patient had a violent attack of coughing, followed by vomiting of a large amount of bright blood, collapse and death.

Abstract of Autopsy.—Heart very small. Muscle light colored and rather soft. Valves competent. Transverse portion of arch of aorta shows moderate cylindrical dilatation. At beginning of descending portion the artery regains its normal caliber. Immediately beyond this a large saccular aneurism, 15 cm. in diameter, is given off posteriorly. This communicates with the aorta through a circular opening 3 cm. in diameter. The aneurism has eroded the bodies of the fourth, fifth, and sixth dorsal vertebræ, and has completely eroded the fourth, fifth, sixth, and seventh ribs near the angles. It communicates with the esophagus by an oval opening, 4 cm. long. The wall of the sac is very irregular in thickness, in places being made up of old laminated clot, 3 cm. thick, and in other places being free from clot. There is no evidence of recent clot-formation. Left bronchus is much compressed at its origin. A great part of lower lobe of left lung shows a condition of consolidation apparently of long standing. Stomach enlarged and abnormally low in position. It is filled with clotted and fluid blood. Remaining viscera show only unimportant changes.

Case II.—Aneurism of Transverse and Descending Portions of Arch and of Innominate Artery. Seven Injections. Severe Local Pain. Slight Improvement. A housemaid, unmarried and forty years old, was admitted to hospital May 18, 1899. Denies history or symptoms of syphilis. Fairly marked alcoholic habit for several years. Acute articular rheumatism six years ago. Dyspnea on exertion for past two or three years. Six months ago she began to have intermittent pain in right supraclavicular space and noticed some swelling there. One week later pain became fairly constant and has since persisted. Some increase in dyspnea. Also irritation of throat with dry cough. On admission the temperature was 98° F., respiration, 26, pulse, 92. Urine normal.

Physical Examination.—Fairly nourished woman of good color. Slight dyspnea. Eyes prominent. Right pupil wider than left. Reaction normal. Prominence of superficial veins of both sides of neck and both shoulders. In right supraclavicular space is seen a small pulsating swelling. With each pulsation the sternal end of right clavicle moves slightly.

Palpation.—Swelling the size of a small walnut just above right clavicle and extending down behind bone. Pulsation systolic in tissue. Systolic pulsation also felt immediately to right of first bone of sternum. Apex beat in fifth space 12 cm. from median line and of heaving character. Distinct tracheal tugging. Pulses equal. Arteries show no marked changes. Behind, slight systolic pulsation inside of left scapula between spine and lower angle.

Percussion.—Precordial dulness reaches to right border of sternum and extends upward behind manubrium sterni to suprasternal notch. In first and second right intercostal spaces the dulness extends one-third the length of the clavicle. It also extends slightly to left of the manubrium. Left border of cardiac dulness extends 1 cm. to left of nipple line. Behind, moderate dulness on left side from spine to angle of scapula.

Auscultation.—Short double murmur at apex which grows louder toward base of heart. Harsh systolic murmur over tumor above clavicle. Behind, faint double murmur heard over area of dulness on left side.

After patient had been kept in bed for six days gelatin injections were begun. Between May 24th and July 8th seven injections were given, the first containing two per cent. of gelatin, the subsequent ones one per cent.

The first injection was followed by slight local pain and by a slight rise of temperature. The second, by severe pain, some redness and tenderness and a moderate temperature (102.6° F.). The remaining five injections were each followed by such severe pain as to require the use of morphine to make it bearable. The pain began very soon after the introduction of the fluid and was often intense for eight or ten hours. The area about the point of injection was swollen and red, but there was no distinct induration nor was there ever suppuration. Some febrile reaction was always noticed, but no chills occurred. The pain was present whether the injections were made in the thigh or in the abdominal wall. The suffering of the patient was finally such that we did not feel justified in continuing the treatment. After the second injection the slight pulsation felt posteriorly disappeared.

On her discharge some days after the last injection the patient's condition, as compared with that upon admission, was as follows: The pain in right side of neck was less constant and less severe, but was felt over a somewhat larger area. The cough and irritation of the throat had disappeared. The slight pulsation posteriorly had disappeared, but anteriorly it seemed to be rather more distinct. The swelling in neck had slightly increased in size, but was less tender. Patient

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was seen again five months later, at which time no appreciable change in the signs could be recognized.

Case III.—Aneurism of Transverse Portion of Arch. Three Injections. Severe Local Pain. No Improvement. Bartender, forty-five years old. Admitted to hospital June 19, 1899. Denies syphilis. Alcoholic habit excessive up to three years ago; since then moderate. Always well up to nine years ago. Then suddenly developed high-pitched, husky voice which has since persisted. For past two months gradually increasing dyspnea. This morning was awakened by a violent attack of spasmatic dyspnea, which was present on admission. No pain at any time. Temperature, 101° F., respiration, 38, pulse, 104.

Physical Examination.—Patient poorly nourished and anemic. Marked dyspnea. Pupils unequal, left being moderately dilated and sluggish in its reaction to light. Right pupil small and with normal reaction. Complete paralysis of left vocal cord. Veins over upper left chest and left side of neck distinctly dilated. Pulsation and slight tumefaction in suprasternal notch and left supraclavicular space. Slight pulsation in first left intercostal space. Apex beat in sixth space 10 cm. from median line. Action regular and forcible. Pulses synchronous, equal in size. Arteries somewhat thickened and tortuous. Distinct tracheal tugging. Well-marked dulness behind first bone of sternum and in first and second spaces for a distance of 3 cm. to left. Below this the dulness merges with that of precordium. A loud systolic murmur is heard over base of heart and in vessels of neck. Also a blowing diastolic murmur over pulsating area and less distinctly over base of heart. Aneurism gives no physical signs posteriorly. The severe dyspnea persisted for some hours, but gradually subsided and thereafter was never more than slight.

Four days after admission patient was given his first injection of gelatin in the right thigh. This was followed by moderate pain and slight temperature. Ten days later a second injection was given, followed by quite severe pain. After an interval of eight days a third injection was made into the abdominal wall. This was followed by such severe pain as to require morphine. The patient was so loth to submit to further injections after this experience that the treatment was discontinued. During the period of treatment there was a gradual, but distinct increase in the size of the pulsating area and in some of the subjective symptoms.

In all these cases the greatest care was exercised in the preparation of the gelatin solutions. The gelatin was carefully selected; the solutions were filtered and then tested as to their reaction lest they should contain some acid. They always, however, gave a neutral reaction. The sterilization and the introduction of the fluid was also done with the greatest care. The injections were made by means of a large aspirating syringe and the fluid was introduced as nearly as possible at a temperature of 100° F.

To recapitulate briefly: Of the three cases, two received three injections and one seven. In two cases the injections had to be discontinued because of the severe local pain. In the third the pain was only slight. In one case, that receiving seven injections, a very slight improvement could be detected. In one case a slight increase in symptoms was noted, while the third case died of rupture of the aneurism while under treatment and the autopsy showed no evidence of recent thrombus-formation, although the condition, that of a large sac with a small communication with the aorta, was an especially favorable one for clotting. Aside from the pain and local irritation no untoward symptoms were observed in any of the cases as a result of the injections.

I am not ready to conclude from these cases that the method has no therapeutic value since in none of the cases was it possible to carry out the treatment fully. Lancereaux believed, however, that he could see very distinct improvement even after a single injection. Certainly no such satisfactory result was apparent in any of the present cases. Futcher gives his results in nine cases as follows: While no case was cured there was a considerable diminution in the size of the aneurism in one case and in several others an appreciable reduction in the subjective symptoms referable to pressure. He believes the treatment to have some merit. Futcher also found that the injections were frequently very painful and were followed by local reaction, fever and even chills.

It must be remembered that the administration of twenty injections would consume approximately five months of time and that during this period the patient must be kept absolutely quiet in bed. Rest in bed for such a length of time would, of itself, in many cases produce a distinct amelioration of the subjective symptoms and even some improvement in the physical signs.

My experience in these cases has at least convinced me that, whatever the curvative value of the treatment, its usefulness is seriously impaired by the severe pain which frequently follows the injections.

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OBSERVATIONS UPON THE AMŒBÆ COLI AND THEIR STAINING REACTIONS.[1]

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BECAUSE of their diagnostic importance and the fact that they are often mistaken for other structures occurring in the intestinal tract, a brief description of the amœbæ of dysentery

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may be of interest. It is safe to say that among the parasites causing disease in man there is not one which more often has been blamed unjustly for disease conditions than has the *Amœba coli*. This is because it has so often been said to be present in the feces when in reality it was not, other things slightly resembling it having been mistaken for it. Large intestinal epithelial cells, leucocytes, collections of anemic blood-corpuscles, monads and the *Cercomonas intestinalis* have all been shown me as the veritable amœba, and that by men otherwise well informed in such matters. To know the amœba one has to have seen it, and it is one of the most difficult of parasites to recognize from text-book descriptions.

As is well known, Losch in 1875 was the first to describe this organism, and numerous observers have since confirmed his researches. Among these may be mentioned Kartulis, Kruse, Koch, Manson, Councilman, Lafleur, Dock and Leuckart.

The organism belongs to the Protozoa, class Rhizopoda. It is simply a mass of protoplasm, provided with a more or less distinct nucleus, hence the ease of mistaking it for other similar unicellular organisms or even large cells.

When at rest the organism may be circular or oval in shape; if arrested while in motion, it may be irregular. It is more refractive than other cells occurring in the feces, with the exception of the monads, and the protoplasm has a peculiar, faintly greenish hue, almost exactly like that of certain malarial crescents. Its size varies greatly, from 5 to 35 mmm. in diameter, but most of the amœbæ seen ordinarily measure from 15 to 25 mmm. in diameter. While many authorities claim that the amœbæ seen in any one case are all about the same size, this has not been my experience, the amœbæ differing widely, some being very large, others small. The shape, also, varies much, some being perfectly circular, others oval, and others irregular in shape.

As ordinarily described the organism is said to consist of two parts, an inner, granular portion, called the endoplasm and an outer, clear portion, called the ectoplasm. This description has been the cause of mistaking the organism for large cells, the inner portion corresponding to the granular nucleus and the outer portion to the protoplasm. As a matter of fact, this differentiation cannot be made out in all cases by any means, and very seldom in amœbæ which are not motile. While, doubtless, the two portions mentioned exist, too much stress is laid upon this characteristic, resulting in confusion, as only the experienced observer can in most instances distinguish them. The organism possesses a nucleus, but this is often difficult to make out, especially in moving amœbæ. It is situated somewhat to one side and is very refractive; its outline is often more or less irregular. The endoplasm forms most of the substance of the organism, is of a peculiar, faintly greenish hue, very finely granular, resembling finely-ground glass, and generally shows a number of perfectly circular or oval, so-called vacuoles. The vacuoles are spaces within the protoplasm of the organism, clear cut in outline and collected in groups within the protoplasm. Many of them seem to contain two or four very refractive dots resembling micrococci. Although these spaces are generally called vacuoles, it is by no means certain that they are so. Certainly they do not resemble the vacuoles in blood-corpuscles and it always appears as though they do not penetrate entirely through the organism, their floor seeming to be formed by a thin, veil-like layer of protoplasm. It is often impossible in certain instances to believe that these peculiar spaces are vacuoles, and it is by no means settled that they are so. These spaces vary slightly in size and in number in different amœbæ. The small amœbæ seldom show them, but the large ones seem often to consist entirely of a collection of them, surrounded by a small amount of the protoplasm. It would seem from this that such an amœbæ might be a sporulating body, as the oval spaces resemble very strongly the segments of the sporulating malarial plasmodia save that they are larger. The amœbæ generally show more or less material within their protoplasm which they have absorbed. They often contain red blood-corpuscles, bacteria, pigment particles, etc. Often these inclusions are so numerous that the structure of the amœba is entirely hidden. When it can be seen the ectoplasm consists of a narrow rim of a clear, light green color surrounding the darker endoplasm.

As to the mobility of the amœba, they are always motionless in feces which have not been kept warm, as a temperature below 75° F. renders them immobile, but it is often possible, after preparing a specimen upon a slide from such feces, to render the organisms motile by gently warming the slide over an alcohol lamp. The motility of the organism varies, but it is generally a slow ameboid motion, the organisms throwing out rounded protoplasmic processes, exactly as do leucocytes. These processes are always perfectly clear and formed by the ectoplasm, and these are often the only portions of the organism which shows the differentiation into ectoplasm. In rare instances the movement is rather rapid, the processes being thrown out quickly and the whole organism moving in an eccentric jerky manner. More often, however, the change in position is very gradual, and only careful watching will detect it. Often, also, the organism does not change its position, but merely its shape, the protoplasmic processes being projected and retracted, sometimes so very slowly that close scrutiny only will detect them. Often also, a peculiar

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undulatory motion of the border of the organism is noted, exactly like that occurring in the malarial parasites.

When the temperature is that of the body the amœba are most active and progress by an almost imperceptible projection and flowing into such projection of the mass of the organism. When, however, the temperature is low, it can be seen that the protoplasmic projection gradually becomes larger until at last the granular endoplasm flows into it. This process is repeated and thus the organism changes its position.

The color and refraction of the amœba should serve to distinguish it from cellular material, as intestinal epithelium, it being of a peculiar, faint green color and very refractive, which is marked enough so that even with a ⅔-inch objective it can be picked out from the surrounding cellular matter. These properties, however, do not serve to distinguish it from the monads and cercomonads, which are also greenish in color and refractive, but they are much smaller than the large amœbæ and much more actively motile, not throwing out protoplasmic processes, but moving by means of flagella. To one who has seen the amœbæ these organisms could never be mistaken for it, but mistakes have been made, especially when the observer had only the text-book description as a guide.

To sum up the amœba is a round oval or irregular protoplasmic body, varying in size; motile or immotile, the motility being ameboid in character and, when present, being generally moderate; pale or faint green in color; refractive, with sharply-cut border, and containing a circular or oval, lighter colored, space, known as a vacuole. In some a darker colored nucleus can be distinguished and in the immotile organisms a darker colored central or eccentric portion, containing the vacuoles and comprising the greater part of the parasite, and known as the endoplasm, can be seen, surrounded by a narrow or much smaller layer, lighter in color and clear, known as the ectoplasm.

Nothing is known as to the method of reproduction of the parasite, but it is generally believed to be by sporulation. If this is so, it is possible that the so-called vacuoles are in reality spores, the mother parasite eventually rupturing and thus setting them free. Reasoning from what occurs in other similar organisms, this seems the most probable method of reproduction. It is impossible in observing a large circular amœba, filled with the oval or round spaces so that only a thin strip of protoplasm remains visible, to resist the impression of its resemblance to the large, segmenting tertian plasmodia, just before the segments separate and become free. Another interesting analogy between the two parasites is that in both, solutions of sulphate of quinine arrest all motion immediately, and destroy them. In many amœbæ I have noticed the so-called vacuoles change their position, floating with the protoplasmic currents within the amœbæ.

The Staining Reactions of the Amœba Coli in Feces.—It is not a very difficult matter, where the amœba are numerous in the feces, to obtain well stained specimens if sufficient care is taken in their preparation. While, undoubtedly, the amœbæ show to greater advantage when stained in sections of tissue, the method of staining them in feces is most practicable and useful, and if the smears are made sufficiently thin, the organisms will show very perfectly. So little is said in the recent text-books regarding the appearances presented by the stained amœbæ that a somewhat detailed account of their staining reactions is of interest. Like all protozoan organisms, the nucleus stains with more or less difficulty, but I have found that carbolic fuchsin stains it, as well as the nucleolus, very easily and deeply, while methylene blue stains it dimly and often not at all.

I have tried a large number of different staining solutions, but have found that only three are really worthy of use, in that they are sure, rapid and show the minute structure of the amœba well. These are: Loeffler's methylene blue solution, carbolic fuchsin solution, and thionin solution. Of these solutions, Loeffler's methylene blue is the quickest and best stain for general use, while the carbolic fuchsin solution is by far the best where it is desired to stain the nucleus and nucleolus, as well as certain peculiar bodies within the protoplasm of the amœba. Toluidin blue is also a good stain. The thionin differentiation method recommended by Mallory, which often gives beautiful results in staining amœbæ in tissue, gives but fair results in the staining of the organisms in the feces and can hardly be said to be differential, as other structures in the feces take and hold the stain. It is a useful stain, but methylene blue is far better and much more easily applied.

Having found a specimen of feces containing numerous amœbæ the smears are prepared as follows: Several cover-glasses are thoroughly cleaned and placed in a row upon the edge of the table. With a sterilized platinum loop a small flake of mucus is picked out of the feces and placed upon a cover-glass. This is repeated, a minute flake of mucus being placed upon every other cover-glass. The intervening clean cover-glass is then dropped gently down upon the glass containing the mucus, and then the two are slid apart, very gentle pressure being used in doing so. By proceeding in this way a dozen or more very even, thin smears can be secured in a few minutes' time. The smears are then placed face up in equal parts of alcohol and ether and allowed to harden for thirty minutes. If the feces are warm when the preparations are

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made, many of the amœbæ will be hardened while undergoing amœboid motion. After hardening, the smears are ready to stain.

Staining Reactions with Loeffler's Alkaline Methylene Blue Solution.—The smears are stained in this solution for from three to eight or ten minutes; about five minutes gives the best results; they are then washed in distilled water and mounted in Canada balsam.

The amœbæ take the blue stain very well, staining almost as deeply as the nuclei of the epithelial cells. In such stained preparations three stages of the amœbæ can be detected. The smaller amœbæ staining comparatively uniformly; larger ones, staining less uniformly and containing one or more vacuoles; and still larger ones, riddled with vacuoles and staining very deeply. The smaller or young amœbæ stain much more intensely than the larger ones, and with the methylene blue seldom show a nucleus. No vacuoles can be seen, nor do they often contain red blood-cells. The protoplasm is of a rather dark blue ground color, with small oval or round lighter blue areas scattered through it. The smallest amœbæ do not show these light areas, but stain almost uniformly throughout. No distinctions can be traced between the ecto- and endoplasm. These small amœbæ are generally round, but sometimes show small pseudopodia which generally stain very intensely. Some of the small amœbæ show a peculiar mottled appearance, light and dark stained areas alternating throughout their protoplasm. These small forms are evidently young amœbæ.

In all the preparations the most numerous forms of the amœbæ are those to be described. They are large, generally round or oval in shape, although if the preparations are made when the amœbæ are active, many of them are irregular in shape, showing pseudopodia. The protoplasm in these amœbæ stains irregularly, but no distinct differentiation into ecto- or endoplasm can be made. One portion of the amœba stains very densely and there is a gradually shading off into a light blue color. In the irregular forms this is most noticeable, the pseudopodia staining very dimly, due to the fact that they are composed of ectoplasm which takes the stain but dimly. Some of pseudopodia, however, stain very intensely, due probably to the fact that the endoplasm had flowed into them just before hardening. These fully grown amœbæ show from one, to three or more, large vacuoles, which are entirely unstained, but besides these there are numerous small, oval or round, very dimly-stained areas, scattered throughout the protoplasm, which are evidently not vacuoles and correspond to the same areas observed in the very young forms. Scattered between the oval, dimly stained areas, are very deeply stained small portions of protoplasm. The staining phenomena of these amœbæ exactly resemble those of the large, segmenting tertian malarial plasmodia. The vacuoles and the dimly-stained areas are entirely distinct, the dimly-stained areas being oval or round, much smaller than the vacuoles, having a dim outline and evidently not penetrating the organism as do the vacuoles. Many of these amœbæ contain red blood-cells which do not stain, but show as round, or irregular, light green areas, scattered through the protoplasm of the parasite. In a few of the amœbæ very deeply stained, almost black, oval-shaped structures can be seen, generally arranged near the periphery of the organism, and resembling bacilli, save that they are too large and are often irregular in shape.

In preparations stained for some time, some of the large amœbæ show a very deeply-stained nucleus, situated, as a rule, eccentrically, but sometimes near the center. It stains a dark lilac and contains numerous more deeply-stained, almost black granules. Surrounding this nucleus is sometimes seen a more lightly-stained area with a deeply-stained, almost black border. Besides blood-corpuscles, the protoplasm of these amœbæ contains numerous deeply-staining rods and dots, evidently bacteria of various kinds. Besides the two forms of amœbæ described, large round forms are seen, containing numerous vacuoles and staining more or less dimly. No nucleus can be demonstrated in these forms, nor can the small, oval, unstained areas be seen. In most instances these amœbæ are simply riddled with vacuoles, the amœba consisting of a stained shell perforated by vacuoles. Many of these show evidences of pigmentation. These are probably degenerate amœbæ, undergoing, just as does the plasmodium of malaria, vacuolization and pigmentation. It is a significant fact that such amœbæ never show any inclusions in the way of blood-corpuscles or bacteria.

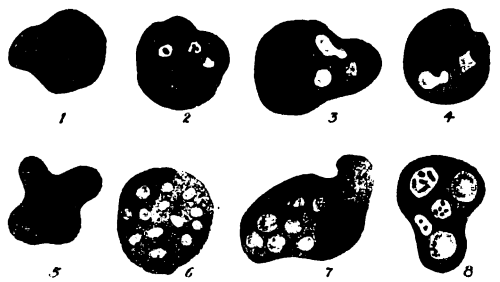

Fig. 1. Young amœba, showing deeply-stained nucleus, and dimly-stained ectoplasm. No vacuoles. Obj., ⅙ inch. Fig. 2. Young amœba showing deeply-stained nucleus and so-called vacuoles. Obj., ⅙ inch. Stain, toluidin blue. Fig. 3. Full-grown amœba showing deeply-stained nucleus and oval spots; also vacuoles. Obj., ⅙ inch. Fig. 4. Amœba showing deeply-stained oval spots, but no nucleus. Obj., ⅙ inch. Stain, toluidin blue. Fig. 5. Young amœba showing deeply-stained nucleus and endoplasm, dimly-stained ectoplasm. Obj., ⅙ inch. Stain, toluidin blue. Fig. 6. Very large amœba, staining almost uniformly throughout, and filled with red blood-corpuscles, which are greenish in color. Obj., ⅓ inch. Fig. 7. Full-grown amœba showing deeply-stained nucleus, dimly-stained ectoplasm, and several red blood-corpuscles. Obj., ⅙ inch. Fig. 8. Full-grown amœba showing two red blood-corpuscles, and three dimly-stained pseudo-vacuoles, containing deeply-stained rods and dots, probably bacterial in nature. Obj., ⅙ inch.

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Staining Reactions with Fuchsin.—Smears are stained with carbol fuchsin for from five to ten minutes, washed in water and mounted in Canada balsam. This stain is especially useful in demonstrating the nucleus, which stains very beautifully. The same structures are seen in amœbæ stained by this method as by methylene blue, but in addition the nucleus, nucleolus and certain other details can be made out. The nucleus stains a deep red, is usually situated eccentrically, near the edge of the parasite, probably at the juncture of the ecto- and endoplasm, but it may be more central. It contains a small, more deeply-stained nucleolus, and a few almost black granules, while the nuclear substance contains minute, more deeply-stained areas. The nucleus is round or oval in shape and regular in outline. As noted before, the large amœbæ containing great number of vacuoles, do not show any nucleus.

Besides the nucleus and its contents, the fuchsin stain demonstrates with the protoplasm of many of the amœbæ some very peculiar bodies, the nature of which it is impossible to conjecture. Scattered irregularly through the protoplasm are variously-shaped particles, stained a deep brownish red, and especially numerous near the nucleus. These particles are oblong in shape, as a rule, flat and are much larger than any bacterium. They present often a fractured extremity, as though they were crystalline in structure, and it may be that they are certain crystals absorbed from the feces.

In all preparations from the feces, however stained, amœbæ are seen evidently undergoing fragmentation. Numerous knob-like outgrowths are seen, almost entirely separated from the parasite and some which are separated. These fragments stain deeply, and the fragmenting parasite usually shows a normal appearing nucleus, thus showing that the process is a degenerative and not a reproductive one.

Little need be said of the thionin stain. It gives similar results to those just described but is not nearly as satisfactory as the methylene blue or carbolic fuchsin.

This much can be said to have been demonstrated by the study of stained specimens of the amœbæ:

1. That vacuolization is a degenerative process, as the young amœbæ show no vacuoles, the full-grown healthy ones, few, while the amœbæ in which they are most numerous are degenerate bodies, showing neither a nucleus nor inclusions of any kind.

2. That there occur in all but the degenerate forms of amœbæ, small, round or oval, unstained areas, uniform in appearance, and most numerous in the large, full-grown forms, and entirely absent in the vacuolated shells of amœbæ. These areas resemble similar areas observed in stained, segmenting malarial plasmodia, which are, in them, due to the young spores, which take the stain but faintly. Reasoning from analogy, it may be that these areas in the amœbæ are also spores.

3. That in the protoplasm of the amœba, there occur peculiar structures, evidently not bacterial in nature, the significance of which it is impossible to decide. It may be that they are certain crystals which occur in the feces and which have been absorbed by the amœbæ.

4. That degeneration of the amœbæ takes place in two ways, *i.e.*, by vacuolization and by fragmentation.

In closing this paper I desire to express my obligations to Colonel Girard, Commanding Officer of the Hospital, for his uniform encouragement and assistance.

A PRELIMINARY NOTE ON THE RELATION OF THE FORM OF THE TUBERCLE BACILLUS TO THE CLINICAL ASPECTS OF PULMONARY TUBERCULOSIS.[1]

BY HENRY SEWALL, PH.D., M.D.,
OF DENVER, COL.

DURING the winter of 1889-90, I gave some attention to a problem which had previously been suggested to me by Dr. Welch, of Johns Hopkins University. It was to determine whether any relation exists between the characters of the tubercle bacillus, its staining reactions and varieties of form, and the clinical symptoms of pulmonary disease. The work was done under exceptional advantages at the Adirondack Cottage Sanitarium, where, from first to last, more than seventy patients were the subject of inquiry. A summary of results was published in the MEDICAL NEWS, July 25, 1891.

The investigation proceeded from two directions: (1) Pure cultures of tubercle bacilli were studied as to their form and staining qualities; (2) tuberculous patients under observation were divided into arbitrary groups, according as their clinical signs and symptoms seemed to enable one to discriminate between (*a*) those who were recovering; (*b*) those who were simply holding their own, and (*c*) those who were manifestly failing.

The sputa of all these individuals were carefully examined, and the tubercle bacilli found therein were compared as to form and in some cases as to their staining properties. The pure cultures of tubercle bacilli consisted of tubes kindly furnished me by Drs. Councilman and Abbott, of Johns Hopkins, Drs. Vaughan and Novy, of Ann Arbor, and Dr. Trudeau, director of the Adirondack Sanitarium. All the cultures were old and probably, as will be assumed, of low virulence, except one furnished by Dr. Trudeau, which was new and the infective power of which had recently been found to be very great. The conclusiveness of this phase of my work suffered greatly from the lack of facilities to incubate new

[1] Read before the Colorado State Medical Society, 1900.

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cultures on various media and to test their virulence by inoculation.

It is now a matter of elementary knowledge that the tubercle bacillus is distinguished from most other microbes by the fact that, after being stained with an aniline dye, it resists decolorization by acids much longer than most bacteria. The relation of the bacilli to stain was tested in the following way: Cover-slip preparations were made from the various cultures, and they were stained for a definite time in carbol-fuchsin. The slips were placed on the microscope stage, upon a specially-prepared slide, permitting active irrigation with fluid without movement of the specimen. When a stream of very dilute nitric acid was allowed to flow under the preparation, the smear quickly lost its color, but the retention of color on the part of the bacilli from the fresh, virulent culture was preceptibly longer than in the case of those from the old and presumably non-virulent cultures. That is to say, the virulent bacilli resisted decolorization longer than the non-virulent. If the acid did not remain too long in contact with the specimen, its removal by a stream of water was followed by a return of color, and this alternation of reactions was produced a number of times.

But, as in the first case, the final decolorization of the virulent bacilli required a more prolonged action of the acid than did that of the other forms. As these observations were repeated day after day, the difference in resistance to the action of acids exhibited by the various cultures gradually diminished. It is a plausible assumption that the virulent culture, exposed to the diffused light of the laboratory, little by little lost its toxic power and with it the tenacious hold upon the aniline dye. I made no extended observations on the morphology of the bacilli found in pure cultures, but it is worth recording that the forms found in the virulent culture were uniformly like those presently to be described as characteristic in the sputa of rapidly-failing cases of tuberculosis, while in the non-virulent cultures the bacilli presented the features preponderating in the expectoration of "good" clinical cases. It is hardly necessary to say that the tubercle bacillus, while a very distinctive organism to the trained eye, presents much variety in its appearance. The length of the bacillus is said to vary from one-quarter to three-quarters of the diameter of a human red blood-corpuscle, the thickness being one-fifth to one-sixth of the length.

When studied in sputum, tubercle bacilli appear to me to present the following well-marked varieties of form, with more or less complete gradations between: (1) A very short, relatively-broad rod; (2) a long form represented by a chain of rods; (3) a long form homogeneous in structure; (4) a long form of a beaded appearance, as if composed of a string of spores. Many investigators have described a branching variety of the tubercle bacillus, which some have regarded as a result of degenerative growth, others, as the sign of its relation to higher biological species. The occurrence of such departures from type are not likely to attract the average observer. That a definite species of bacteria may appear under widely different forms has been abundantly demonstrated, Westbrook having recently analyzed the varieties of the diphtheria bacillus, and Adami shown that the colon bacillus may appear as a diplococcus.

It seems to be the common belief that the composition of the culture medium and the conditions of growth as to supply of oxygen, heat and moisture, have much or all to do with this morphological diversity. A difference in the toxic virulence of the various forms is only suspected.

The present paper makes no pretense of presenting explanations of facts, but is limited in its scope to the practical question, Does the form of the tubercle bacillus as found in the sputa, have any relation to the physiological condition of the patient? In the clinical classification of patients I made in the Adirondacks, I was impressed with the fact that the failing cases, with active destruction of lung tissue, produced sputa characterized by a preponderance of the shortest rod-like forms of bacilli. In cases that were doing well the short and jointed germs were few or wanting, the prevailing forms being slender, homogeneous rods of greater or less length, the substance often being broken into spore-like droplets. In old chronic cases, in which there had been a great loss of tissue, but in which the disease had been fairly-well arrested, or in which the malady had made such extensive havoc that the maintenance of life itself was a demonstration of the low virulence of the infecting organism, the bacilli were long and beaded. A few observations were made to test the resistance exhibited by these different forms to decolorization by acids. This difficult subject was not sufficiently explored to support definite conclusions, but so far as the observations went it appeared that the short rods held their color longer under the action of acids than did the other forms.

To-day I am strengthened in the opinion, formed nearly eleven years ago, that the form of the tubercle bacillus, as it is demonstrated in the sputum, is an important indication of the virulence of the tuberculous process, and as a corollary I will venture to suggest that it is a useful guide to prognosis. It is a truism to say that the tubercle bacillus is always dangerous and may always be deadly. Most of those who were classed as "good" cases in my Adirondack list are long since under ground. As practical physicians we are familiar with the enormous influence of habits and environment upon the well-being of the tuberculous subject. Yet we are continually facing anew the strange fact that of two consumptives, both in similar physical condition, with apparently equal chances for recovery, one progressively gets well, but the other gradually slips backward, here a little, there a little, until no hope remains. Again, in the temporary physical backsets to which every tuberculous subject is liable, one case recovers perfectly as from a

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passing indisposition, but another rises broken and permanently hurt. It has seemed to me that the form of the bacilli found in the sputa has great significance in the discrimination of these classes of cases one from the other.

The short, deeply-staining rod or chain of rods of moderate length is the usual form in many active cases. The long rods, particularly if irregularly broken, betoken a milder process, and the chains of spore-like beads characterize the very chronic cases which make us wonder at their tenacious hold on life. If there be a *good* form of the tubercle bacillus it is, as seems to me, a rather long, slender rod, ill-staining or staining irregularly, as if the body of the microbe were irregularly corroded on the sides. It is found in cases apparently passing on to cure. Sputa of the same individuals examined month after month have seemed to me to vary in their bacillary characters with the state of the patient as regards the disease.

RHINOSCLEROMA.*

BY H. JARECKY, M.D.,
OF NEW YORK.

THE case which I have the pleasure of presenting, would perhaps be better described by the term scleroma respiratorium than by the title of this article. However, the title adopted in this paper seems to be so universally accepted for the condition that I have used it as above. The disease is so rare and peculiar, that I have thought that a short historical sketch would be interesting.

The malady was first described by Hebra[1], in 1870, from the observation of nine cases, four male and five female. Since then many writers have added their mite of knowledge, furthering the study of the disease. Its home seems to be in Russia and Austria. In the United States, according to Dr. Freeman,[2] there have been only half a dozen cases reported previous to his, and in Central America about twenty-three.

It is characterized, according to Hebra, by a gradual thickening or infiltration of the integument or mucous membrane of the ala or septum. Nodules then form, which are circumscribed, flat or elevated, hard and painful to the touch, and are covered by normal or slightly wrinkled epidermis of a dark red or shining color. Glands and hair-follicles are absent from the integument.

The disease progresses painlessly and insidiously, the nodules project from the nose and its side, and cause the organ to be deformed, thickened and widened, well shown in Freudenthal's[3] patient. The whole mass is as hard as ivory. Thence it spreads to the angles of mouth, lips, the opening of the mouth, as in Mikulicz's[4] case, scarcely admitting the tip of the little finger. Sometimes the cheeks and eyebrows are attacked. The malady also works its way backward through the nasal passages, causing stenosis, and attacks the pharynx, palate, uvula, larynx, trachea and bronchi. It may also spread through the lacrimal duct and, as in Pick's[5] case, through the Eustachian tube to the external ear. The tongue is rarely affected. The progress is by a non-inflammatory infiltration of the tissue which exhibits no tendency either to break down or to form ulcerative processes.

Although Hebra considered that the external nose was always affected in this ailment, it was soon discovered that other parts of the respiratory tract might be primarily affected, as in our patient. Ganghofner[6] demonstrated that *chorditis superior hypertrophici chronica,* and Türck showed that Stoerck's *blennorrhœa chronica* belonged to the same class, although these had always been considered separate laryngeal affections. In 1882 Frisch[7] demonstrated bacteria to be present in rhinoscleroma.

Microscopically the infiltration commences with numerous small cells, among which are large or spheroidal (Mikulicz) ones. The bacteria are usually found in, and only rarely between these cells. Later these round cells are transformed into spindle-shaped ones and finally into a dense connective tissue. The bacteria occur in pairs or fours, encapsulated in a colloid substance. They resemble Friedländer's pneumococcus and take the Gram stain.

When the degeneration takes place and the connective tissue is formed, one sees scar-tissue of all shapes and varieties producing all sorts of contractions. The disease progresses so slowly that no symptoms are noticed for some time, but later the sufferer complains of a dryness in the nose and throat and a difficult nasal respiration. If the larynx or trachea is affected, there is troublesome cough and hoarseness and dyspnea finally causes the patient to seek medical aid. A peculiar fetid odor, distinct from that of atrophic rhinitis with ozena, is usually present, but is not found in the patient whom I now present.

Yetta S., thirty-two years old, a native of Russia and residing in the United States for eleven years. Parents died while she was yet a child, so that nothing is known of them, and one sister is living in good health. She has always been well and has been married fourteen years, having six healthy children ranging from ten months to thirteen years old. She has not had any miscarriages. About four years ago she noticed a slight pain on swallowing, and upon examination a growth was found in the throat for which nothing was done, a mouth-wash only being prescribed. For the past nine months, she has experienced some difficulty in breathing. This has been gradually getting worse and it was for the dyspnea that she sought treatment.

Upon examination I found the nose to be the seat of an atrophic rhinitis and filled with a frothy discharge, the membrane being very much swollen. In the mouth, bands of connective tissue passed backward to the palate from the back part of gums. The tonsils and uvula were missing. Hanging from the right posterior pillar

* Read before the Society of the Alumni of the City Hospital, November, 1900.

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was a growth the size of a large nut, with a very fine pedicle. Posterior rhinoscopy could not be made at the time. The epiglottis was found to be atrophied and folded upon itself, so that on the under surface, the right and left halves were in apposition. Stenosis was so marked that no view of the larynx could be obtained.

I snared the sessile growth and submitted it to Dr. Beaman Douglas, Pathologist at the Manhattan Eye and Ear Hospital, for examination, who reported that it consisted of tonsillar tissue. Suspecting a case of rhinoscleroma, the bacilli were looked for, but were not found. Posterior rhinoscopy then revealed cicatricial bands extending from the posterior pillars to the lateral walls of the pharynx.

In arriving at a diagnosis many things had to be considered. Syphilis was excluded by antisyphilitic treatment, absence of pain during disease, the number of healthy children, no loss of tissue in the scars and by there being no lymph-glands enlarged.

Tuberculosis was excluded by the absence of constitutional symptoms and there was no broken-down necrotic tissue, which would appear as the disease extended over such a long period. Lupus by freedom of pain and ulceration and burn from caustic, by history.

The diagnosis of rhinoscleroma was emphasized by the absence of pain, length and duration of disease, loss of uvula, only a smooth scar marking its place, and the amount of cicatricial bands.

The disease attacks patients between the ages of fifteen and forty-five years. The prognosis is unfavorable, as no curative treatment has as yet been discovered. Where the disease processes do not encroach on the larynx or trachea, the disease has no effect upon the general health. The treatment, in a general way, consists in relieving externally the deformity and internally the stenosis of the nasal passages, nasopharynx and of the larynx.

Cutting away the growth and rhinoplastic operations have been advised. Injections of arsenic, salicylic acid, carbolic acid, chloride of zinc, nuclein, rhinosclerine, etc., have been tried with varying success. When the nares are closed or narrowed, excising portions, using galvanocautery, dilating with tents, etc., have been recommended.

In this patient the laryngeal stenosis is the only disturbing symptom, and this is being treated with Schrötter's intubation tubes with relief, although there is still some dyspnea. Upon casting a general glance over the case, I think that we must conclude that the disease commenced in the back part of the uvula and soft palate, and thence spread to the mouth, nasopharynx, pharynx, larynx and trachea.

The process seems to have come to an end in the upper parts, but is probably active in the larynx and trachea. The occurrence of the pendulous growth of atrophied tonsil tissue can only be accounted for by the process having occurred in the tonsil, and the resulting marked contraction of the connective-tissue formation having caused the separation of the part.

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1895 Lexington Avenue.

CLINICAL MEMORANDUM.

SUBGLOTTIC GROWTHS; REPORT OF CASES WITH EXHIBITION OF IMPROVED INSTRUMENTS.[1]

BY ROBERT C. MYLES, M.D.,
OF NEW YORK.

THE recognition of the difficulties which I have experienced in removing some benign growths from the subglottic region in certain patients has prompted me to bring this subject before you. After trying and failing with nearly all the forceps and instruments that have been advocated, I constructed the one which I present to you in conjunction with this paper. The ideas were obtained from Sir Morrell MacKenzie's tube-forceps and Dr. Dundas Grant's double-hinged, diamond-shaped laryngeal forceps, and was made for me by Ford & Co. of New York City.

The chief interference with the success of an attempted operation in the subglottic region is due, at times, to the uncontrollable cough and glottic spasms, which shut off the operative field. In cases of benign growths it is especially desirable that no injury should be done to the healthy parts of the vocal cords and laryngeal tissues, and the ideal instrument wanted is one that will remove only so much as will fall within the jaws, which are closed at the distal end. I would suggest the use of this instrument in cases of subglottic papilloma occurring in children, but thus far I have not been fortunate in finding a suitable patient since the instrument was constructed.

I note that this spasmodic closure of the larynx is no new obstruction. Sir Morrell MacKenzie, in his remarkable work on "Growths in the Larynx," published in 1870, in Case LXXIX. of his 100 consecutive ones, says: "This growth proved a very difficult one to extirpate, as the vocal cords became spasmodically approximated when any instrument was introduced within the larynx. A very great variety of instruments were accordingly used. The first pieces were removed with the tube-forceps; at a later period I used the common anteroposterior laryngeal forceps, and, finally, a portion was taken away with Stoerk's wire guillotine."

[1] Read before the sixth annual meeting of the American Laryngological, Rhinological, and Otological Society.

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One of my most interesting cases was that of the Rev. Mr. T. C., age twenty-eight years, who applied to me in June, 1898. He said that three years previously his voice began to lose in tone and vibration, and grew worse from that time until he had some growths removed in March, 1897. Two months afterward hoarseness began again, and he had more growths removed. He seemed to be comparatively well, with a fair speaking voice until a few weeks previous to coming to me when he had a hemorrhage, which apparently came from the larynx.

When I examined him, both ventricular bands were covered with wart-like excrescences which extended upon the posterior surface of the epiglottis. Both vocal cords were covered with papillomatous growths which extended downward over the subglottic region and were much more prolific on the left than on the right side. I had no difficulty in excising and removing the growths from the surface of the larynx, above the vocal cords, with the tubal-forceps as well as the MacKenzie cutting forceps. Attempt after attempt to remove the subglottic growths was followed by failure and this after many applications of solutions of cocaine, varying in strength from ten to one hundred per cent. Finally I succeeded in removing the growths with a modification of the forceps that I present to-day. The growths removed would number somewhere between fifty and one hundred. The patient has had no difficulty for the last year and is filling a responsible position in one of the largest churches in New York City, and now has a clear and resonant voice.

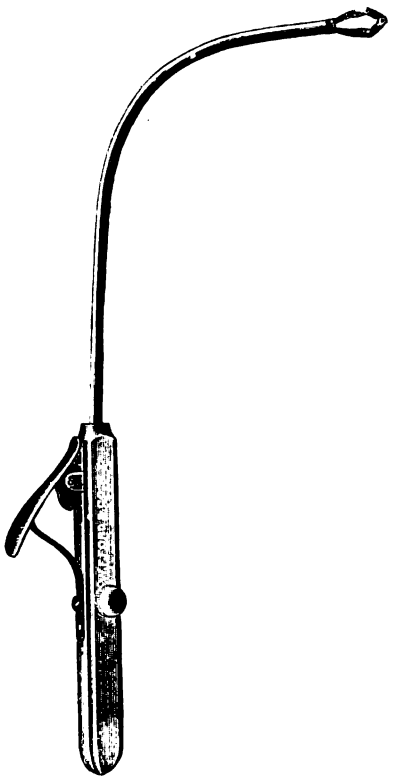

Fig. 1.—The instrument consists of a handle with finger-ratchet, extension Schroetter tube, and a revolving, unilateral forceps. Its mechanism is similar to that of Dundas Grant's forceps.

Another interesting case, Mrs. X., age fifty years, presented herself, complaining of hoarseness, difficulty in speaking and violent laryngeal spasms. Examination revealed a pale growth about ten mm. long; its middle third was situated beneath the processus vocalis, one-third of the growth extending beneath the respiratory glottis; the anterior third extended beneath the vocal glottis. This patient was most intractable when any foreign agent was introduced into the larynx. The spasms and coughs were violent and intense, applications of strong solutions of cocaine which were applied at intervals for an hour, did not seem to control the reflex phenomena. I was specially anxious to obtain a deep specimen of this growth for a microscopical diagnosis. I had used various forms of cutting and excisor tube-forceps, and succeeded in removing only small portions of the growth after many trials. Finally I made one prolonged and desperate effort to remove all of the growth in sight, this was accomplished with the instrument presented, after a two-hours' seance, during which time I used strong solutions of cocaine in a liberal manner, in addition to large doses of bromide of potash and a hypodermic of sulphate of morphine and atropine.

The author remembers with regret the case of a little child with multiple papilloma of the larynx and subglottic space, and believes that, if the instrument presented could have been used, the little patient's life might have been saved. Laryngotracheotomy was performed by a general surgeon in the writer's presence; the operation was a complete success in every detail, and every step of the operation was most skilfully carried out. The growths, covering the subglottic space, which seemed to be the ones that were causing almost complete suffocation, were thoroughly removed, but septic bronchopneumonia caused a fatal end two weeks later.

I commend the instrument for your consideration and trial, in non-malignant, infraglottic growths in childhood, as well as in adolescence.

MEDICAL PROGRESS.

Source of Blood in Urine.—JOSEPH WIENER, JR. (*N. Y. Med. Jour.*, Mch. 9, 1901), first attempts to discover from what part of the urinary tract the blood comes, then seeks its cause. In early life stone in the bladder, tuberculosis of prostate or bladder, gonorrhea, sarcoma of kidney, or renal disease following an exanthema may be found. Adults have urethral

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stricture, stone and new growths of bladder and kidney. In old age enlarged prostate, stone and newer growths predominate. Blood appearing between the acts of micturition is from the urethra; that appearing at the beginning of stream is prostatic or from deep urethra. Clots at beginning or end of clear urination are urethral, prostatic or vesical. In kidney hemorrhage the blood is intimately mixed with the urine. In renal hematuria, movable kidney, and renal stone the hemorrhage may appear and disappear suddenly. Rest relieves hemorrhage due to stone, or movable kidney, but may fail to influence that from tuberculosis or malignant growth. Long or short thin clots denote renal hemorrhage, long thick clots, urethral hemorrhage. If from bladder, prostate or urethra the blood readily sinks in the urine, but kidney blood remains intimately mixed with the urine. If the ratio of albumin to hemoglobin is above 1 to 16, there is albuminuria as well as hemorrhage and therefore probably nephritis. A careful examination of all the organs may show a cardiac lesion, tuberculosis, or malaria, and thus aid in diagnosis. Urethral hemorrhage is chiefly due to stricture or traumatism, prostatic hemorrhage to enlargement, stone, new growth, or occasionally to varicose veins, bladder hemorrhage to stone, tuberculosis or new growth, and renal hemorrhage to stone, tuberculosis, tumor, injury, and nephritis. Vesical tuberculosis is most frequent between 16 and 25 years, the urine is very light, odorless, feebly acid, sometimes containing tubercle bacilli; the stream is often arrested on account of pain, the bladder is irritable at night, bright hemorrhage may appear suddenly not influenced by rest; there may be a few drops of blood at end of urination accompanied by straining; there are distinct periods of quiescence uninfluenced by violent exertion, sudden relief of suprapubic pain and rapid cessation of pain in glands after urination and persistent post-scrotal pain; vesicle calculus is most frequent in adults, the urine is turbid, with mucus, pus, oxalates, urates, or phosphates; the stream is arrested involuntarily; the irritability of the bladder ceases at night; the hemorrhage ceases with rest and is most profuse at end of stream; there are no distinct periods of quiescence except with rest, the pain often persists after emptying the bladder, and there is no post-scrotal pain. In renal calculus the hemorrhages are usually small and frequent, in tumor, profuse and at irregular intervals, and the pain may be worse at night. Frequency of urination at night occurs in renal tuberculosis, but only in the daytime in calculus.

Preservative for Suprarenal Extract.—Boric acid, glycerin, or weak alcohol will preserve the gland for some weeks, but materially weaken its physiological effect. Camphor by its odor prevents detection of decomposition. Silver and mercury preparations are precipitated and render the extract practically worthless. By experiments on animals and subsequent tests clinically, SEYMOUR OPPENHEIMER (*N. Y. Med. Jour.*, Mch. 9, 1901) has found that an almost permanent solution can be made by adding gm. 4.0 (3i) of dried suprarenal to gm. 30.0 (℥i) of one-per-cent. solution of resorcin, and that the hemostatic and vasoconstrictor properties are not affected.

Biological Test for Human Blood.—The differentiation between human blood and that of animals is a problem of highest importance from a forensic point of view but as yet no test has been discovered which is infallible. UHLENMUTH (*Deutsche med. Woch.*, Feb. 7, 1901) describes a reaction which he is still engaged in elaborating and which promises to be the most reliable yet known. Its underlying principle is the fact that the blood of warm blooded animals, when small amounts of the blood of an animal of a different species are thrown under the skin, responds by forming bodies which when added to the blood of any animal of the species which was used to furnish the material for injection produce a well-marked physical change in it. For example if small quantities of defibrinated human blood are injected into the peritoneal cavity of a rabbit at intervals of 6-8 days, after 5 or 6 injections certain specific substances appear in the animal's blood. If to a weak solution of human blood in physiological salt solution a few drops of serum obtained from such a rabbit are added, a distinct turbidity occurs which on standing develops into a flocculent precipitate while similar dilutions of the blood of other animals (18 species have already been tested) give absolutely negative results. The reaction is extremely delicate and is effective even with traces of blood obtained from dried spots after four weeks of exposure to the air.

Incubation in Yellow Fever.—There are three distinct classes of patients to be considered from this point of view, *viz.*, those who go from a clean to an infected environment and remain there until the fever developed; those who go from an infected to a clean environment and there remain until the fever appears; and cases in which there has been only a single short exposure to infection. As can be seen the latter is most definite, but even here there is a chance of carrying the infection by clothing or other means so that incubation does not begin until some tnme after exposue. HENRY R. CARTER (*Med. Rec.*, Mch. 9, 1901) found that in Class I. the fever developed in from three to sixteen days after the first exposure; in Class II. from one to eight days after the latest exposure, nearly all developing by the third day; and in Class III. the incubation was from three to eight days, half of the cases showing fever on the third day.

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Acute Gastric Ulceration.—N. HEINEMAN (*Med. Rec.*, Mch. 9, 1901) considers that even an arteriole, if eroded in only a small part of its circumference so that it cannot retract or form a clot, may be a source of dangerous hemorrhage. The acute ulcer has no indurated edges and may be so small as to be easily overlooked. It is most often found near the cardia in the grand cul-de-sac, or on the anterior wall near the greater curvature, a situation in which chronic ulcer is seldom found. Usually sudden and excessive hemorrhage is the first sign. Exceptionally there are nausea, gastric pain, vertigo, and syncope; and when there is no vomiting, sudden pallor with thready pulse, chills, or convulsions may lead to the suspicion of ulcer. The condition must be differentiated from rupture of aortic or miliary aneurism, cirrhosis of liver, cancer, and chronic ulcer. Usually the acute ulcer appears suddenly in a person previously in normal good health. The treatment consists of absolute physical rest, rectal alimentation for three or four weeks, and an ice-bag over the stomach. Ergotin hypodermically, and intravenous injections of serum should be used. Dieulafoy's serum is 8 gm. chloride of sodium and 10 cgm. nitrobenzoate of caffeine in one liter of water. Hayem uses 5 gm. of chloride of sodium and 10 gm. of sulphate of sodium to one liter of water. Preparation for operation should be made and if the loss of blood continues the stomach should be opened and the ulcer carefully sought for and stitched up.

Dysbasia Intermittens Angiosclerotica.—This condition, which is an intermittent lameness of vascular origin, is very rare and was first described by Charcot in 1854. It occurs usually in persons past middle life. They are seized after walking a short distance, occupying perhaps five to ten minutes of time, with a helpless, cramp-like feeling in the legs, so severe as to render further progress impossible, though after a few moments' rest they can do their short stint again. While the patients are at rest and during the first few moments of exertion there is no trouble. Examination between seizures shows that one or more of the pedal arteries and even the popliteals are without pulsation, and as a result the foot may be cool and slightly pale, or red, or blue, according to circumstances. The arms are never affected. The cause of this condition has been variously conjectured, but nothing is positively shown. The disease is chronic and does not tend to recovery. Sometimes an improvement is brought about by such means as iodide of potash, moderate warmth, prolonged galvanism with the feet resting in tubs of warm water, cardiac tonics, and studious avoidance of exciting causes. JAMES J. PUTNAM (*Boston Med. and Surg. Jour.*, Feb. 21, 1901) reports a case of this rare condition in a man, seventy years of age, with a remarkably good history and physical condition. He had had one attack of dizziness in which he was precipitated from his chair to the floor. This may have been due to a cerebral lesion of arterial origin. For two months an intense sense of muscular fatigue in the legs, amounting almost to pain, recurred every time the patient walked more than one-eighth of a mile. This quickly disappeared on resting. The pain usually appeared first in the left calf, then in the right, and then extended upward to the thighs and hips, the knees not being affected. He then feels that he must stop, and that if he went on his joints would grow rigid and he could not move. On awakening in the morning or after a rest he feels perfectly well. He is not neurasthenic and mental work causes no fatigue. The calf of the left leg was found slightly cooler than the right and perhaps a little less firm. The left knee-jerk was slightly less than the right. The toes of the left foot could not be flexed dorsal quite so far as those of the right. Other movements were normal. The galvanic reaction of the left peroneal nerve was slightly less than that of the right. Only two of the pedal arteries could be felt to beat and one of these could be scarcely felt. Treatment carried out, as indicated above, brought about no change. Finally, the patient undertook to give himself a kneading of the calves morning and night, and soon he began to improve. He has continued this treatment and can now walk one or two miles without much difficulty. The writer is inclined to think that the best explanation of the condition is that it is a vascular spasm.

THERAPEUTIC HINTS.

Ichthyol Ointment.—W. T. SLEVIN (*N. Y. Med. Jour.*, Mch. 9, 1901) recommends the following for both superficial and deep inflammations:

℞	Ichthyol .....gm.	3.0	(gr. xlv)
	Plumb. iodid.	3.0	(gr. xlv)
	Ammon. chlorid. ...	0.7	(gr. x)
	Petroleum, q. s. ad...	30.0	(℥i)

Vaginitis.—Use warm injections of a tablespoonful of the following in one liter (one quart) of water:

℞	Resorcin	20	parts.
	Ac. salicyl.....	2	"
	Cupri sulphat.....		
	Betanaphthol 0.25		"
	Aquam ad.....1000		"

Apply tampons impregnated with

℞	Salol .....gm.	3.0-8.0	(gr. xlv-℥ii)
	Neutral glycerin..gm.	250.-0	(℥viii)

And insert a suppository of

℞	Acetanilid .....gm.	1.0	(gr. xv)
	Ac. tannic	0.50	(gr. viii)
	Ext. hyoscyam.....	0.25	(gr. iv)
	Sacchar lactis	10.0	(℥vi)

—*Jour. de méd. de Paris*, Feb. 17, 1901.

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OF MEDICAL SCIENCE.

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SATURDAY, MARCH 16, 1901.

THE MEDICAL PROFESSION AND THE SOCIAL EVIL.

THERE are now only two contagious diseases that are not submitted to the regulation of municipal and State boards of health. Needless to say these are the venereal diseases. Of gonorrhea, Professor Neisser of Breslau, the discoverer of the gonococcus, said in the article on the subject which he read before the International Conference on Venereal Diseases at Brussels and which was contributed by him to the MEDICAL NEWS for January, 1900, that it is the most contagious of diseases except measles. Syphilis is known to be very violently contagious. Passing exposure to the active agent of the disease may produce it. It was not difficult over ten years ago for an American syphilographer to find in medical literature 20,000 cases of innocent syphilis. Most of these were due to accidental contamination.

The watchword of present-day medicine is the prevention of disease and especially of contagious disease. When two of the most important contagious diseases are left absolutely uncared for things are just as they should not be. No reason can justify inaction in the face of the dangers from these intensely communicable diseases. At the Brussels Conference the agreement of delegates gathered from all over the world was that at the present time the attempt to enforce police regulations of prostitution is inadvisable. Americans who have seen something of the inner workings of so-called police regulation in Paris, Vienna and Berlin, have very little confidence in the system as applied. There is an open acknowledgment of the necessity for evil that is distinctly lowering in its ethical tendency. The cooperation of medical men in the system gives a sense of security against venereal contagion that is not justified by the work done nor its results. Finally the increase of clandestine prostitution, despite the enforcement of police regulations, has shown that an effective registration and medical examination system is under present living conditions in our large cities a practical impossibility.

The Brussels Conference did offer one promisingly helpful suggestion as the result of its deliberations. It was that proper means should be taken for a more widespread dissemination of up-to-date knowledge with regard to venereal diseases. Our views as to the significance of venereal diseases have been completely revolutionized in these last twenty years. Gonorrhea is no longer thought of as a simple inflammation of mucous membrane, resembling a cold in the head and not apt to be any more harmful in its results. This mildest of the venereal diseases may invade any of the serous membranes of the body. The arthritis it sets up may cause ankylosis and permanent deformity. It may give rise to fatal peritonitis, or to crippling and at times mortal endocarditis or pericarditis. Its curability is one of the most uncertain things in medicine. It has been known to continue and prove infective fifteen years after the orignal acquirement although for many years it had been giving practically no symptoms. Such good conservative authorities as Professor Finger of Vienna and Professor Jullien of Paris, men of very large experience, absolutely forbid marriage for two years after an attack of gonorrhea.

So much for the milder venereal disease. Syphilis has always been a subject of very proper solicitude, but even its significance for evil has widened very much during the last quarter of a century. The direct effects of the disease upon the nervous system were scarcely more than suspected a few years ago. Now, they occupy a large place in pathology and the indirect effects of syphilis, the so-called parasyphilitic affections,

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have become the most important part of neurology and syphiloiogy. Practically all the apoplexies in patients under forty-five years of age are of syphilitic origin. Tabes, with its excruciating pain, its hopeless blindness, its crippling incoordination in the midst of torturing undisturbed mentality, is connected etiologically with syphilis in at least 70 per cent. of the cases.

The great mental disease of the century, general paralysis of the insane, is so closely connected with syphilis that there are good authorities who doubt if it ever occurs except in a patient with a syphilitic history. At the beginning of the century paresis was almost unknown. As the result of what Krafft-Ebing has strikingly called syphilization and civilization, the disease has become one of the most important in our modern insane asylums. Over 30 per cent. of the inmates of asylums on the Continent are general paretics. In England the proportion is scarcely less. In this country the average is well up to 20 per cent. of all the insane.

These are the facts in the matter of venereal diseases that have been acquired by recent medical investigations and observations. Although the general public is intensely interested in the subject, people have scarcely an inkling of these new points of medical knowledge. What must be begun at the present time is not a new vice-crusade, but an education crusade. Nothing is eventually more harmful to the cause of good morals than the spasmodic attacks of overzealous virtue, that attempts to reform the world all at once. Vice-crusades do more harm than good. If people can be impressed with the physical dangers inevitably associated with vice, then a public opinion will be created that will allow the enforcement of proper and systematic repressive regulations. At the present time legal regulation would soon resolve itself into nothing more than a new and powerful method of persecution and blackmail.

We must get beyond the mistaken notion that ignorance is innocence and that the subject of venereal disease must be tabooed. Our young men particularly must be given definite ideas as to the present position of medical thought in relation to the venereal diseases.

The German University method, by which lectures on the subject are delivered, not alone in the medical department, but to all the students of the University, is an excellent one. If in addition such lectures could be given at young men's clubs, great good would be accomplished and none of the harm that puritanic feeling imagines would result.

Here is the present duty of the medical profession for the prophylaxis of venereal diseases: Educate the people to right ideas. Just as education with regard to other contagious diseases has, not without delay and difficulty, produced a public opinion that now favors the enforcement of sanitary measures, even though individuals must suffer as a consequence, so, too, a public sentiment will be gradually raised up that will help and not hinder in the work of the elimination of the physical evils of venereal disease.

PATHOGENIC MICROBES IN MILK.

A TENDENCY to the development of better dairy sanitation has been shown by the appearance of a number of articles during the last three or four years on the relations of milk to the spread of disease. Although belief in such a relationship is by no means new, the scientific consideration of the subject can hardly be said to have begun more than a dozen years ago. When one considers the important position which this article of human food occupies, especially in connection with the young in whom milk constitutes the chief nutriment, the need of investigation assumes clearer significance. In New York City alone it has been estimated that considerably more than seven million gallons of milk are consumed in a year. And, now that it has been incontestably established that milk may serve in the spread of disease-inciting micro-organisms, newer and more protecting measures should be enforced to ensure narrower limitation of this occurrence.

Milk as it exists in the udder of a healthy cow is practically germ-free, but it is a matter of common experience that all milk, however carefully it may be collected, however clean and aseptic may be the vessels into which it is received, will on standing, or after being submitted to the influences which are ordinarily at work between the time of collection and distribution, be found to teem with bacteria often of many kinds. For the most part, fortunately enough in this, the micro-organisms found are largely saprophytes. Of these, bacilli of the so-called colon and proteus groups are apparently the most common contaminations. It is to the rapid multiplication of one or the other of these that milk "goes bad." However normal in appearance, taste and chemical analysis, the milk as commonly distributed to consumers may contain hundreds of thousands of

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bacteria per cubic millimeter. By their numbers and by their products of metabolism the common saprophytic species alone have often been shown to induce disease, especially in that fragile organism, the infant.

If the latter is true of milk containing, what has incorrectly been said to be, a normal flora, the gravity of the whole question is then further emphasized by the observations of various investigators who have repeatedly found pathogenic microbes in milk, such as is usually distributed for consumption. Among the diseases about which there is evidence showing that the exciting factor was transmitted through milk may be mentioned tuberculosis, scarlet and typhoid fevers, diphtheria, cholera, anthrax and several others.

The statements of various observers as to the frequency of the tubercle bacillus in milk are often divergent; thus the percentages given vary from 14 to over 60 per cent. Whilst Obermuller found that 61 per cent. of the Berlin milk tested contained tubercle bacilli, later investigations show that the percentage is usually considerably lower. Rabinowitsch and Klemperer (*Ztsch. f. Hygiene,* 1899, p. 137) more recently found only 28 per cent. of their samples of the Berlin milk to be similarly contaminated. In Liverpool and Manchester, in England, tubercle bacilli were found only in 2.8 per cent. in samples collected in the first-named city, and in 5.55 per cent. in those of the last-named city (*Lancet,* Jan. 20, 1900). On the other hand, milk collected from 16 Cambridgeshire dairies by Kanthack and Sladen contained them in over 56 per cent. of the samples (*Lancet,* Jan. 14, 1899). Just recently, Klein (*Journal of Hygiene,* Jan., 1901) demonstrated tubercle bacilli in 7 per cent. of the samples of "country milk" examined.

In almost all of these investigations the milk probably was obtained from cows with udder tuberculosis; for the experimental researches of the Royal Commission on Tuberculosis tend to show that the udder must be tuberculous before the milk becomes infectious.

There is one extremely interesting point in connection with the results of comparative tests of the sediment and cream of the same samples of milk; Kanthack and Sladen found that the cream was ordinarily considerably more infective than the sediment. An explanation of this is probably found in the studies of Freeman (*Arch. of Pedriatrics,* 1899), who found that as the cream rises to the surface it carries with it more than 90 per cent. of the contained bacteria, leaving the milk relatively free from micro-organisms.

In the case of typhoid fever and scarlet fever the demonstration of the relationship of milk to disease is largely based on circumstantial evidence; as yet bacterial proofs are still wanting. Notwithstanding, the proofs are convincing enough, as any one will find who takes the trouble to go over carefully the facts relating to various epidemics for which the milk has been held responsible. As far as diphtheria is concerned the evidence is complete; diphtheria bacilli have been found in milk. Thus Klein found this organism once in 100 specimens taken at random. That cholera may be spread by milk we have every reason to believe. Gaffky, who has written on cholera in Egypt and India, states that it is not infrequently a means of dissemination. An epidemic of cholera on ship-board reported by Simpson in 1887 is conclusive in this respect.

Fortunately, through the stimulating influence and energy of a small group of scientific investigations of milk in its hygienic applications, some of the larger dairies of the country have already taken important steps toward the realization of a safe and clean milk; those who have not yet taken precautions to safeguard the public health in this connection should be compelled to do so to the fullest measure by adequate laws.

THE TESTIMONY OF THE INSANE.

IT is a part of newspaper effect to collect the opinions of eminent men on a certain subject and set them side by side for the public to compare. The recent discussions on the value of the testimony of insane patients, in criminal or civil suits, apropos of the trial of the Bellevue nurse, Davis, for manslaughter, have elicited a very interesting conflict of sentiment between physicians and lawyers.

It is instructive to note that the doctors agree. Several well-known alienists state that they consider it unwise to admit the testimony of any insane person. The lawyers, however, quoting precedent, hold that a witness need not be excluded from giving testimony because he is insane on some one subject. The case that established this precedent occurred just half a century ago. It was very similar to the one now under discussion. The man who was killed and the witness were both lunatic patients, in an asylum, and both slept in the same ward. The testimony

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of the lunatic was accepted. The ruling of the Supreme Court of the United States in 1882, in a case where an insane man gave testimony, was that though a lunatic might seldom be a competent witness, yet the existence of partial insanity would not prevent him from giving accurate and lucid statements of what he had seen and heard; and that if he was capable of understanding the nature of an oath, and of giving a correct account of things he had witnessed, his testimony might be accepted. The question of the competency or incompetency of the individual was, in the matter of insanity, to be left, like incompetency, for any other cause, to the judgment of the court.

The real question now before the alienist and lawyer of to-day is whether the precedents of fifty and nineteen years ago shall stand in the face of the revelation of modern science. The whole theory of insanity has been revolutionized during the last twenty-five years. The idea used to hold that a man might be insane in one respect only, but absolute, sound in every other matter, as a man who had lost one finger from a hand, might be perfectly strong and skilful with the others. But modern neurology has taught us that faculties are not lopped off like fingers; but that any sign of mental failing is a sign of general mental disease, which affects the whole mental attitude of the patient in the form of warped judgment.

An insane man may have correct perceptions of outward events, but his description of these cannot be relied on, because, by reason of his disease, he distorts the outer world into a phantasmagoria, harmonizing with his own morbid mood. Careful observations have endowed the experienced alienist with an insight into the mental conditions of the insane, so that he is able to detect a hundred vagaries allied to the apparent delusion of the individual, where the casual observer would see but one. Were such an experienced alienist always at the command of the court to say, without party bias or political intrigue whether or not a certain testimony might be accepted as trustworthy, it would be possible to permit the exception to the rule of excluding insane witnesses.

But as the members of the court would be quite unable to pass such judgment, owing to their lack of knowledge, we feel that our legal brethren should accept the combined warnings of the alienists, and never permit an insane person to act as a witness.

The fact that in the present case under discussion, one witness was a paranoiac, is enough to make the idea of his acting as a witness impossible. But perhaps the members of the legal profession who know their precedent so well, do not realize that a paranoiac's ideas of his relation to his fellowmen are wholly distorted, that he is always abused, and has a perpetual "grouch" that is open to any one's suggestion. The other witness in the case was a patient with general paresis, which for the lawyer's benefit should be translated general decay.

If the court casts out the testimony of those whose moral character and past reputation shows them guilty of wilful misrepresentation, it should be equally chary of accepting testimony from those whose mental characteristics have proved them incapable of perceiving facts as they are.

THE CITY OF ORANGE AND ITS SMALLPOX HOSPITAL.

WE hope that the bomerang of ignorance will not fly back at the citizens of Orange who have so foolishly demolished the temporary smallpox hospital that was put up for the care of patients who are now lying ill in a densely crowded part of the town.

Burning was the method that these enterprising citizens decided on as a means of abolishing the nuisance, but the Health Board, under whose care the hospital was being erected, stopped this enterprise and had the building patroled. But a mob armed with axes, spikes and crow-bars, in true revolutionary fashion, proved too much for the guards and succeeded in the work of demolition:

In the meantime the number of cases of smallpox is in danger of increasing. The crowded quarters of the tenement districts in which they are most numerous may have to be quarantined and these enterprising citizens may find themselves in closer contact with the disease than they would relish. The obstinacy of ignorance and the density of the fool alike furnish food for reflection.

ECHOES AND NEWS.

NEW YORK.

Bellevue Maternity Hospital.—The Medical College and Dispensary building of the Bellevue Hospital group will be altered from plans by Horgan & Slattery into a maternity hospital dispensary and dormitory. The changes,

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which will be to the interior of the building, have been estimated to cost $20,000.

Gift to the Academy of Medicine.—The Academy of Medicine will get the medical library of the late Dr. Abbott Hodgman by his will, filed for probate last week.

Hospital Nurses' Home.—Plans were filed at the Building Department last week for the new nurses' home, to be erected for the Presbyterian Hospital at 31 to 37 East Seventy-first Street, opposite the hospital buildings. The structure, which has been designed by Architect James B. Baker, will be eight stories in height, and will occupy a plot 124 by 102 feet. Several months ago a benefactor, whose name was not disclosed, gave the hospital $300,000 for the erection of this home, provided the institution would assume the maintenance of it. Alexander Maitland, Secretary of the Board of Trustees of the hospital, said yesterday that the erection of the home would be a two-fold benefit. It would afford adequate living apartments for the nurses and give additional space in the buildings now given up to the medical and surgical wards, the top floors of which structures have heretofore been occupied by the nurses. According to the last annual report of the hospital, its corps of nurses numbers eighty-five.

How One Doctor Does It.—The persistence of a New York physician in his efforts to build up his practice might cause the County Medical Society to drop him if he happened to be a member and a case could be made out against him, says the *Sun*. He does not advertise. He writes letters. For instance, W. T. Smith, of 1213 West Twenty-third street, will find in his mail a letter addressed to W. W. Smith at his address. It is from this physician. In this letter he thanks W. W. Smith for his appreciation of the physician's skill and then outlines his case. The complaint described is usually one of the common ailments like rheumatism or dyspepsia or lung trouble. The doctor tells W. W. Smith that he has discovered an absolute cure for this disease and that his success in the Smith case was due to that. He concludes by asking W. W. Smith to come in and see him within a month that he may be sure his case is cured. W. T. Smith, who reads the letter, assumes that it was sent to him by mistake. If he happens to have symptoms like those described as W. W. Smith's and if he is as credulous of sure cure as most people are, he may call on the physician for treatment. There is no way to prove that the physician purposely misdirects these letters. He has been engaged in this sort of business for at least two years, however, and although these fake letters would seem to be forlorn hopes, they evidently bring results or he would discontinue them.

Appointment of St. Luke's Graduate.—Jonathan M. Wainwright, M.D., formerly house surgeon at St. Luke's Hospital, New York, has been appointed Surgeon-in-Chief to the Moses Taylor Hospital at Scranton, Pa.

Railway Surgery.—A joint session of the Section on Railway Surgery, with the Medico-Legal Society of New York, will be held on Monday, April 15, 1901, in New York City, under the chairmanship of Dr. Charles K. Cole, of Helena, Mont.

Prevalence of Grip.—The State Board of Health has issued a statement relative to the prevalence of grip in this State. The disease made its appearance in 1889. Every year since in the winter season it has recurred, the annual epidemic having various characteristics. The number of deaths which occurred each year from the disease is as follows: 1890, 5,000; 1891, 8,000; 1892, 8,000; 1893, 6,000; 1894, 3,000; 1895, 5,000; 1896, 2,750; 1897, 3,000; 1898, 2,500; 1899, 7,000, and 1900, 11,500. The statement says: "Of the distribution of the disease, it has not been found to be one of either the city or the country. It is a disease of the colder months. It has varied greatly in severity in different years; it seems likewise to have varied greatly in virulence in different localities and shown varying types. It likewise varies in rapidity of spread. It is evidently communicable from the individual directly and conveyable in infected clothing. Like all zymotic diseases, susceptibility to it varies; unlike some, immunity does not follow a previous attack. The State is now in the course of the twelfth recurrence of grip. Affecting the mortality of December by about 500, it has increased the numbers of deaths in January by probably 3,000, and was still in progress during February."

New York's Hospital for Insane and Narcomanias.—Assemblyman Henry last week introduced a bill providing for the establishment of a hospital in New York City for the special treatment of acute nervous and mental diseases. The city is to appropriate $250,000 for the maintenance of the hospital and the building is to cost $300,000. The board of managers is to consist of twelve members, six of whom are to be practising physicians. The physicians appointed as managers are to be the consulting and attending physicians of the hospital and shall have the care and treatment of all patients. A superintendent is to be appointed at a salary not exceeding $10,000. He is to be a physician of more than six years' experience and recognized as a specialist in neurology and psychiatry. He is to employ such attendants and nurses as he deems necessary. The object of the hospital is to prevent the removal of patients suffering from mental disorders to Bellevue, and all persons suffering from acute nervousness and mental diseases, who are residents of New York City, are to be received at this institution and detained there for a period not exceeding ten

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days. Magistrates may commit persons to the hospital who appear nervously or mentally deranged until their normal condition may be ascertained. Persons whose sanity is in doubt can be confined there pending the determination of their mental condition. This is to prevent them being railroaded to an insane asylum. All cases of alcoholism, narcomania or habit neurosis may be committed to the new institution. The board of managers is empowered to dismiss patients committed to the hospital.

New York Skin and Cancer Hospital.—The New York Institute of Stomatology invites the profession to a special clinical lecture upon syphilis of the mouth and throat, to be given in the Hospital on Thursday, March 28th, at 4:15 P.M., by D. Bryson Delavan, M.D.

New York Academy of Medicine.—At the regular meeting to be held Thursday, March 21st, there will be held a symposium on the Present Treatment of Gonorrhea and Its Complications and Sequelæ." The following papers will be presented: (1) Acute Gonorrhea, by Dr. G. K. Swinburne; (2) Chronic Gonorrhea, by Dr. John Van der Poel; (3) The Complications of the Anterior Urethra, by Dr. M. I. Echeverria; (4) The Complications of the Posterior Urethra, by Dr. J. Pedersen; (5) Gonorrheal Conjunctivitis, by Dr. W. A. Holden; (6) Gonorrheal Strictures, by Dr. I. R. Hayden. Discussions by Drs. R. W. Taylor, Guiteras, Bierhoff, Lapowski, Fuller, Hill, Gibson, Chetwood and others.

PHILADELPHIA.

University of Pennsylvania Medical Bulletin.—We note that the change in the *University Medical Magazine*, which were announced in February, appear with the March issue. The title has been changed to read *University of Pennsylvania Medical Bulletin.* The reading matter is printed in double instead of single column, and advertising matter has been excluded. The policy and scope of the publication are in no way affected by these changes as it still continues to be the official organ of the Medical Department of the University of Pennsylvania. In its present form the publication is both attractive and dignified in appearance.

Increase in Typhoid Fever.—During the week ending March 9, 86 cases of typhoid fever were reported, against 18 for the preceding week. No cause for this increase, other that the low condition of the Schuylkill River, due to drought throughout the valley, is apparent. The report of the Bureau of Health for 1900, states that bacterial examination of milk taken from typhoid-infected houses failed in every instance to show the presence of typhoid bacilli.

Obituary.—Dr. Emil Schnizler died at his home in this city, March 6, of pneumonia. Dr. Schnizler was born in Germany sixty years ago, received his medical education at Heidelberg University, and was for fifteen years connected with the Vienna Hospital. While there he made special studies regarding the nature of rheumatism. Since coming to this city, twelve years ago, he had made a specialty of rheumatism, gout and neuralgic manifestations.

Streptococcus in Gynecology.—Dr. Guy L. Hunner, of Johns Hopkins Hospital, addressed the Obstetrical Society on the above subject March 7th. Mistakes in diagnosing this infection are considered inexcusable. The history of the case, in nearly every instance the infection following confinement, is of the greatest value in diagnosis. Localized abscesses should be opened through the vagina or by an inguinal incision, every effort being made to avoid opening the peritoneal cavity. Antistreptococcic serum has been used at Johns Hopkins, but is not considered of much value.

Libraries and Contagious Diseases.—The Board of Health at the last monthly meeting took the following action toward preventing the spread of contagious diseases: *"Resolved,* That the assistant medical inspectors be directed to obtain a list of the several public libraries in their respective districts and to furnish the Board of Health with a list of the same, and that the several libraries be furnished daily a list of cases of contagious diseases in order that books may be refused such houses in which contagious diseases exist."

Surgical Shock and Collapse.—Dr. Geo. W. Crile, of Cleveland, Ohio, by invitation read a paper on "Experimental Research into Surgical Shock and Collapse" before the College of Physicians March 6th. The reports of experiments on 250 animals, mostly dogs, were given. The animals were reduced to surgical anesthesia and killed before consciousness was regained. The effects on blood-pressure and respiration by cutting, crushing, or burning the various tissues of the body were ascertained. Traumatism on bone, cartilage, tendons, and fascia produced but little effect. Wounding of the nerve-trunks of the somatic area produced very marked effects, there being an immediate rise in blood-pressure. In amputations and disarticulations the principal change was caused by the division of skin, muscles, and nerves, and but little when the bone was sawn, or the joint opened. This result is contrary to old beliefs. Cutting or crushing the tongue had but slight effect. Drawing it forcibly forward and to one side sometimes caused total inhibition of the heart or respiration. This has an important bearing on the swabbing of the throat and consequent pulling out of the tongue by vigorous anesthetizers. Foreign bodies thrust in the pharynx and larynx caused marked inhibition and collapse in some instances. Positive in-

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flation of the lungs may stop the circulation. Operations on the genitals showed opposite results in the sexes, a marked fall of blood-pressure being caused by crushing the testicles while in the case of the ovaries a rise was always produced. Experiments with blows on the pit of the stomach showed that no amount of manipulation of the solar plexus could cause collapse, the result in such cases being due to the effect on the heart. The conclusion reached was that shock is due primarily to impairment of the vasomotor nervous system as there can be no shock unless there be low blood-pressure. No fall in blood-pressure is caused by hemorrhage up to a certain point, but there is a diminished stock of reserve power and as a consequence shock comes on more easily after hemorrhage. After abdominal operations the continuance of shock depends on the amount of raw surfaces left, the tension of stitches, presence of blood-clots, etc. These factors help determine why one operator's patients recover more rapidly than do those of another. The statement was made that in cases of quick drowning death was caused by blocking of the circulation instead of by asphyxia.

Milk Inspection Inadequate.—The laws regulating the inspection of milk in Philadelphia and other cities of the State met with severe criticism from the members of the Pennsylvania State Veterinary Medical Association, which held its annual meeting here during the past week. Considerable time was devoted to the consideration of the inspection of milk and meat. Dr. Jacob Helmer of Scranton read a paper on "The Problem of Municipal Milk Inspection" in which he stated that the laws of Pennsylvania are markedly inadequate to the needs of the people. State legislation practically gives no authority to Boards of Health and Councils further than the appointment of an inspector to manipulate and analyze samples of milk. Competent inspection must include not only this, but the inspection of every cow of every dairy and the careful study and enforcment of dairy sanitation.

CHICAGO.

Medical College Gift.—The sum of $1,000,000 has been given to the Dunham Medical College by John E. Du Bois of Du Bois, Pa. The gift, so the officials of Dunham College assert, comes as an unsolicited testimonial for the benefits which his wife received recently in treatment by members of the faculty last fall. Mr. Du Bois is a multi-millionaire lumberman and mine owner. According to the announcement made to-day he makes this gift without any reservation, simply declaring that the money is at the disposal of the college authorities as soon as they have laid their plans for its disposition.

The Demands of Sanitary Science.—At a meeting of the Chicago Medical Society, held March 6th, Dr. H. M. Bracken, of St.Paul, Secretary of the Minnesota State Board of Health, read a paper on this subject, in which he discussed at considerable length the suppression of nuisances. A nuisance was defined as some feature objectionable to the sense of sight, smell or hearing, or a menace to health. The disposal of refuse taxes the ability of the sanitarian according to the varying conditions present in large and small cities. Refuse includes street-sweepings, various cast-off articles of clothing or factory, kitchen garbage, manure, dead animals, ashes, etc. Kitchen garbage has a food value in the feeding of hogs and any city with a population not exceeding 300,000, and surrounded by an open country, should find but little if any trouble in disposing of such material at comparatively little expense. It may be necessary under certain conditions to dispose of it by means of cremation, but this, as a rule, is a wasteful method and expensive, and is to be avoided when possible.

School Inspection and Infectious Diseases.—As to the control of the spread of infectious diseases, probably there is nothing that will accomplish more than a thorough system of school inspection. School inspection does not cover the entire problem of proper sanitation for schools, for the proper ventilation, heating, and lighting of school buildings, together with an insistence upon the individual cleanliness of pupils, places a great responsibility upon architects which too often is not recognized.

State Aid in the Prevention of Tuberculosis.—Dr. Charles O. Probst, Secretary of the State Board of Health of Ohio, read a paper with this title. He presented an argument in favor of the following propositions: (1) The State should provide hospitals for the reception of persons suffering from tuberculosis, and should assist municipalities or counties to construct similar institutions. (2) Physical education, conducted by trained medical men, should be made a part of the common-school course; and students in normal schools, colleges and universities should be instructed in hygiene, including a proper knowledge of the causes and prevention of tuberculosis. (3) The State should exercise a much closer supervision over the construction, ventilation and care of workshops and factories, especially where the occupation is conducive to tuberculosis. (4) The State should prohibit the sale of milk from tuberculous animals, and should provide for the inspection of dairy cattle. It should enforce the proper stabling and care of such animals. The essayist urged the erection of a hospital for consumptives by the State for the treatment of carefully selected cases. It would seem to be wise, at least in the beginning, that the patients should pay the greater part of the operating expenses. The charge of

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one. Hospitals more strictly for the prevention of tuberculosis should be established by municipalities, or possibly by counties. The aim here should be to select and isolate those cases which are the greatest danger to the public. Such cases are usually found among the unfortunate, poorest classes. Many of these find their way into general hospitals or have to be treated in their homes at public expense. He urged the physical education of school children, with the teaching of hygiene and the cause and prevention of consumption to students in advanced institutions of learning.

Miscarriage of Municipal Sanitation.—A paper with this title was read by Dr. Ernest Wende, Health Commissioner of Buffalo. The following is a summary of his paper: There should be (1) unity of law, procedure and action throughout the State in regard to contagious diseases, even further in this relation, throughout the States, interstate contagious disease laws. (2) Interstate law covering contagious diseases in animals, particularly tuberculosis. There seems every reason for believing that the pathology of the superior animal —man—would be benefited by such legislation. (3) The vesting of city health officials with certain State Board of Health inspection powers, to permit them, under certain circumstances, to extend their action beyond the municipal confines. (4) Municipal sanitation and State medicine to be made a more important feature in education, particularly in universities. It should be made contingent that health officers qualify by such course of study before being eligible. (5) Requirements of sanitary education everywhere; in the public schools, in the high schools, colleges and universities, so that by the time the younger generations mature, enlightenment will have reached our various legislative bodies. (6) Selection of municipal health officers for their fitness, with secure tenure of office, and proper compensation. The municipality should not be exposed to an unnecessary risk by politics.

Bill Amending Inheritance Tax Law.—Senator Bussey has introduced a bill amending the inheritance tax law by providing that when beneficial interest passes to a hospital or other charitable institution, it shall not be subject to tax, but that the exemption shall not apply to institutions which are operated for the profit of its owners.

Appointment of Dr. Schaefer.—Dr. Frederick C. Schaefer has been appointed gynecologist to St. Elizabeth's Hospital and Surgeon-in-Chief to St. Hedwig's Hospital.

GENERAL.

Iowa State University Loss.—With wind blowing at the rate of fifty miles an hour, fire broke out March 11th in the Medical Building, one of the oldest in the State, caught fire later, and is also a total loss. There is no insurance, and the loss will reach upwards of $250,000.

Grave of Hippocrates Found.—A despatch to the London *Chronicle* from Vienna states on the authority of a telegram from Athens that the grave of Hippocrates was discovered during excavations at Larissa. A royal commission was immediately sent to verify the report.

Medical Library for the Oranges.—The medical and surgical library of the late Dr. William Pierson, of Orange, numbering 2,000 volumes, has been presented by Mrs. Pierson to the physicians of the Oranges and they have decided to organize the William Pierson Medical Library Association. Ultimately, it is expected, this will result in an Orange academy of medicine, with a building for the library, rooms for meetings of the local medical societies, lecture halls and probably courses of instruction on medical topics. For the present the library will be placed in the Stickler Memorial Library. The Stickler Library is now building as a memorial to the late Dr. Joseph William Stickler and his extensive medical library is also to be placed in the building. Physicians have named a committee to prepare a plan of organization which will be adopted at a meeting to be held soon.

University of Michigan.—Mrs. Love M. Palmer, widow of Dr. A. B. Palmer, who was Professor in the Medical Department of the University of Michigan from 1852 up to the time of his death, fifteen years ago, died March 9th. By the terms of her will, she leaves $85,000 to the University. It is understood that $20,000 will go to build a new ward for the hospital, and $15,000 to maintain free beds in that institution.

Monument to Dr. Ollier.—The undersigned constitute a Committee similar to those formed in several European countries for the purpose of receiving subscriptions for a monument commemorative of the distinguished scientific services of Professor Leopold Ollier. Among the members of these Committees are Lord Lister, Professors von Bergmann, Czerny, Durante and other leading men. The municipality of the city of Lyons has dedicated an open space adjacent to quarters of the various academic faculties on the border of the Rhône named in is honor "Place Leopold Ollier." The profession of this country is well aware of the great services rendered by Professor Ollier, especially in the domain of plastic and osseous surgery. His labors have been most fruitful in the domains of surgery, of physiology and of pathology. The committee hopes to raise not less than one thousand ($1,000) as a testimonial from the profession of America. Checks should be forwarded to W. W. Keen, M.D., 1729 Chestnut St., Phila-

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delphia, Pa., and at as early a date as possible. *Committee:* ROBERT ABBE, New York; WILLIAM T. BULL, New York; P. S. CONNER, Cincinnati; A. T. CABOT, Boston; HOWARD A. KELLY, Baltimore; W. W. KEEN, Philadelphia; RUDOLPH MATAS, New Orleans; WM. J. MAYO, Rochester; W. F. MCNUTT, San Francisco; ROSWELL PARK, Buffalo; CLAYTON PARKHILL, Denver; MAURICE H. RICHARDSON, Boston; NICHOLAS SENN, Chicago.

Obituary.—Dr. William Dexter Anderson, a well-known physician of New Haven, died last week as the result of an operation for intestinal trouble. He was born in Londonderry, N. H., sixty years ago, and was graduated from the Yale academic department in 1862, and from the Yale medical school in 1865. He was a musical composer of some note in his early days, but never had any of his works published.

King of England's Appointments.—King Edward VII. has appointed Lord Lister to be Sergeant-Surgeon in Ordinary and Sir William MacCormac and Sir Thomas Smith to be Honorary-Sergeant-Surgeons. Honorary Physicians to the King, Dugal McEwen, M.D.; Sir James Dennet, Inspector-General of Hospitals and Fleets; Sir John Watt Reid, Director-General of the Medical Department of the Navy (retired); Adam B. Messer, M.D., Inspector of Hospitals and Fleets; Henry C. Woods, M.D., Inspector-General of Hospitals and Fleets (extra). Honorary Surgeons to the King: Sir James Jenkins, Inspector-General of Hospitals and Fleets; Timotheus J. Haran, Inspector-General of Hospitals and Fleets; Sir James N. Dick, Director-General of the Medical Department of the Navy; William H. Lloyd, Inspector General of Hospitals and Fleets; Alfred G. Delmage, Deputy Inspector-General of Hospitals and Fleets.

Anniversary of Dr. Hansen.—Dr. G. A. Hansen, the discoverer of the lepra bacillus, well celebrate his sixtieth birthday, July 29, 1901. It is proposed to erect to him a marble-bust in the Bergen Hospital (Lungengaard) where he has worked so many years and in whose laboratory the life history of the bacillus was worked out.

CORRESPONDENCE.

THE OPIUM HABIT.

To the Editor of the MEDICAL NEWS:

DEAR SIR: I have never lived in India, like Kipling, nor in China, like Dr. Wm. Hector Park of McMeekin, Fla., but, as a resident of New York and as a close observer for a quarter of a century of the opium addiction as practised in all its forms by the lowest type of Mongolian as well as the highest physical and intellectual type of the Caucasian, I can affirm that, no matter where the question may be studied, it is one that should be based on personal, practical knowledge. One should look into the matter with a full appreciation of all its phases, good, bad and indifferent, as they may be.

It is more apt to prove satisfactory in dealing with a sociological problem to begin by understanding one's own place in one's most natural environment before studying a foreign being in his habitat, viewed by prejudiced eyes. A question of toxic drug-action is one that can be studied as well in civilized communities, among English-speaking, or intelligent races, as by trying to observe this phenomenon upon utterly alien peoples in their own peculiar and unfamiliar environment.

It sums itself up in the fact that to really understand the question of the opium habit in either its sociological, economic, ethical or medical aspects, it is not necessary to go to India, China, Japan or even to San Francisco. Right here in New York City one can see and study all the phases of the subject and New York presents, it would seem to me, on account of its cosmopolitan population, as fertile a field for investigation of this interesting subject as India or China, especially as it does not present sociological difficulties of language and many other features that would handicap one in becoming personally acquainted and in touch with the subject.

New York undoubtedly contains thousands of opium habitués, varying widely in the peculiar form in which they take the drug. The Mongolians, for the most part, seem to be habitués of the pipe, and they are to a great extent *limited* smokers, confining themselves to a minimum amount of the drug and using it much as the holiday drinker of alcohol. It is the Chinaman's "off-day" pleasure, a sort of Saturday and Sunday recreation. He seems very moderate in his requirements and nothing is ever thought of this moderation as but the usual thing, emanating from the customs of his country. The Chinaman of New York is an industrious, hard-working man, and the few glaring exceptions of the opium fiend in all its horrors do not apply to his class, unless it be in the sick or the exceptionally "bad" Chinaman.

My experience has taught me that the majority of the pipe-smokers among the Chinese are limited smokers and are absolutely unharmed by their practice.

In the case of the white race it is different, but only to a slight degree. All who seem to become absolute slaves to the various opium addictions are, as a rule, of a peculiar perverted type. The drug does not altogether psychologically and physically change the individual. It seems to fit *his type of character.* It is not so much that one can see the opium *facies* and character and recognize them readily, but one can also recognize a singular type of man and woman whom one would unhesi-

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tatingly classify as addicted to some habit or who is perverted mentally, morally, or physically. This class is seen among our anemic cigarette fiends, who have all the peculiar general aspects of the opium fiend.

There are great differences in the general actions and habits of the "fiend," whether he is addicted to morphine by the mouth, or is the user of the hypodermic or the devotée of the pipe. There is a vast chasm between the morphine fiend and the smoker which is difficult to bridge. He who induges in the "gun" is further away still. He neither cares to indulge in the simple pleasures of the pipe, nor does he contemplate the possibility of the satisfaction of content following a dose by the mouth.

There are many devious windings in the path before the fiend incarnate stage of the hypodermic is reached. There are thousands in New York City to-day who are satisfied with their daily smoke or a fraction of a grain of morphine as there are thousands upon thousands that are satisfied with their drink or two a day. The moderate opium addiction is not only a possibility, but it is a fact; a fact that is known to many, but the habit, or pleasure, is a more or less secret one on account of the opprobrium of the wise saws and moralists who write and control legislation on a subject they wot not of.

The opium habit is pernicious—it is bad and it is to be condemned in any country or in any man. This is all true, but it is in no way as pernicious, bad or unhealthy, from any standpoint, as alcohol. There are more drunkards made by the incessant demands upon the economy for more alcohol than there are "fiends" from the daily increasing psychical demands for the drug.

Pathological science teaches the practical fact that there is a far greater amount of actual modification of the body tissues, as a result of the use of alcohol than is possible to bring about by the use of opium or its derivatives. Alcohol changes the tissues directly; opium will not do so, except indirectly by its interference with tissue nutrition.

The opium habitué is only discovered by his admission or great excess. The alcoholic is vastly easier to discover. Mentally and physically the confirmed alcoholic is to be classified as a greater mental and physical departure from a given norm. To compare these again sociologically, the man who indulges in the public cup or the secret pill, one who really knows would unhesitatingly say that they are immeasurably far apart, and degradation sits with the followers of Bacchus and does not recline beneath the "shadow of the poppy."

To say that one cannot indulge in a modicum of opium daily for years and refrain from increasing his daily dose is to say what is untrue. Or to say that necessarily one neither obtains comfort nor pleasure therefrom and that misery and poverty sit at one's doorstep is also a fabrication.

The great trouble in the study of all types of habit neuroses or drug addictions is to obtain false impression from the extreme cases. To understand how impossible it is for the ordinary man to obtain important data upon a question of this kind is to realize the great difficulty in coming closely in touch with the secret devotée.

The intelligent man is not going to talk upon his habit. The ordinary individual will dilate upon the subject of alcohol; this is a subject which society permits to be discussed. How rare to find one who can talk intelligently on the subject of opium or understand it unless it is in a statistical, deprecatory manner as far away from any fact as the general tenor of Dr. Park's statements. To understand this subject it is not necessary to quote Kipling nor Dr. Parks, but to take up one's abiding-place among the people who use the drug. Then one soon will learn that there is a vast difference in the use and the abuse of this most useful of medicines to man, and it would not be long before one would be convinced that in no way nor from any standpoint is it as dangerous to the community as alcohol.

CHARLES H. BROWN, M.D.
25 West 45th Street, New York, March, 1901.

OUR LONDON LETTER.

[From Our Special Correspondent.]

LONDON, March 2, 1901.

MR. BURDETT-COUTTS' STRICTURES ON THE SOUTH AFRICAN HOSPITAL COMMISSION—BAD AMBULANCES AND OUT-OF-DATE TENTS—FEEDING OF TYPHOID AND DYSENTERIC PATIENTS ON BULLY-BEEF AND BISCUITS—PREVALENCE OF TYPHOID FEVER IN THE TROOPS; 19,000 CASES, OVER 4,000 DEATHS AND NEARLY 11,000 MEN INVALIDED—PLAGUE IN INDIA INCREASING—THE EPIDEMIC OF ARSENICAL POISONING; 36 DEATHS IN MANCHESTER—ARSENIC SUPPLIED TO THE SUGAR MANUFACTURERS AT THE RATE OF 4 TONS IN 30 WEEKS—PLAGUE AT THE CAPE—THE HUNTERIAN ORATION—THE FORM OF THE HUMAN SKULL AND THE ORIGIN OF MAN—THE ANTI-TUBERCULOSIS MOVEMENT—GREAT DIMINUTION IN THE DEATH-RATE FROM CONSUMPTION.

IN Mr. Burdett-Coutts' second letter he passes from the defects of principle which he claims to have established in his first letter (described in my previous communication) to specific cases showing the grave defects of the Commission. So far no attempt has been made to answer his trenchant and grave indictment, although a few of the Conservative and, therefore, Government organs have in a

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general way tried to depreciate his letters without answering his charges in any way. The Commission urges that duly qualified special sanitary officers should be forthcoming in future wars—a proposal which Sir Walter Foster, a medical member of Parliament, laid before the Government at the beginning of the war and which they, in their superior wisdom (!) rejected. Mr. Coutts asks, Would not the recommendations under this head have derived incalculable weight if the report had brought out a few of the grave results from their neglect? One case would have been sufficient, such as that of the 2nd Worcesters, who came fresh and healthy from Bermuda, marched over a clean trek into Bloemfontein with only two sick, were camped on ground just evacuated by a Paardeberg regiment, and within 3 weeks had 278 men down with typhoid fever from which 40 or 50 died. Then instead of sending out 8 or 10 consultants at a salary of £5,000 a year each, would it not have been better to have sent 20 or 30 experienced practitioners who could have taken charge of the larger hospitals? As to the ambulances the Commission fully supports Mr. Coutts' condemnation of the clumsy, inefficient vehicles in use. It also supports his criticism on the persistent use of the heavy marquee instead of the larger and far lighter tortoise tents used in all the private hospitals. But why are not the results of this mistake pointed out, *i.e.*, that the use of the marquee at places to which transport is the main difficulty restricts the tent accommodation for patients by nearly one-half? The Commission strongly supports his recommendation in favor of female nursing. It says, "Of course nurses could not be employed in field hospitals or at the front." But when a field hospital moves up to a large town on the rail and is stationary there for two months it could have nurses just as well as a general hospital. One of the greatest evils due to local mismanagement was the treatment of patients when being conveyed by train from the front to the base, a journey of three to five days, often performed in open trucks without extra clothing and in bitterly cold nights. The feeding of the patients who were mostly suffering from typhoid fever and dysentery on bully-beef and biscuits deserves the strongest censure. The Commission does not appear to have discovered how widely this practice prevailed. On the question of the high typhoid-fever mortality the Commission refuses to entertain a comparison between the private and military hospitals and then proceeds to accept such a comparison based on two military hospitals picked out by the principal officer of the Medical Corps. In the Volks private hospital at Bloemfontein the typhoid-fever mortality was 7.75 per cent.; in the military hospitals in the same town it was 21 per cent.

The serious mortality from typhoid fever in South Africa is shown by the following figures given by the Government in the House of Commons. In October there were 568 cases of typhoid fever and 98 deaths; in November, 1,213 cases and 207 deaths; in December, 1,665 cases and 286 deaths. The total number of cases from the beginning of the war up to December last was 19,101; total of number of deaths, 4,233. The number of men invalided with typhoid fever who have arrived in England is 10,975.

Plague in India is increasing. In the week ending January 17th in the whole of India there were 2,839 deaths compared with 2,463 in the previous week and 1,279 in the corresponding week of last year. There were 575 deaths in the Bombay Presidency, 1,863 in the Bengal Presidency, 37 in the Madras Presidency, 23 in Punjab, and 341 in the Mysore province. In Calcutta there were 78 new cases and 76 deaths. In Bombay city there were 293 deaths—a great increase. The total deaths were 1,119, equal to a rate of 68.97. Of this number 222 were due to plague—an increase of 68. A fifth outbreak is now developing and the disease is distributed over the city. Several dead bodies have been found in the public roads. The week ending January 24th shows a further increase of plague. In the whole of India there were 3,277 deaths.

The report of Dr. Buchanan, a medical inspector of the Local Government Board, to that body on the recent epidemic of arsenical poisoning has been issued. He has visited places known to be affected by the epidemic in Lancashire, Cheshire, Staffordshire, Worcestershire, Shropshire, Yorkshire, Nottinghamshire, Warwicksire, Northamptonshire and Leicestershire. He finds that there were in Manchester 2,000 sufferers from the epidemic, in Salford 782, in Chester 46, in Birkenhead 100, in Stowbridge 30, in Staffordshire 667. As to the mortality he says that without detailed knowledge it cannot be estimated. There were 36 fatal cases in Manchester between November 28, 1900, and January 10, 1901, 23 of the patients being women, and 13 men.

At the inquest on the body of a woman who is supposed to have died from arsenical poisoning in beer Dr. Campbell Brown, an analytical chemist associated with the Liverpool University College, stated that he had analyzed samples of sulphuric acid which had been supplied to Messrs. Bostock, manufacturers of brewers' sugar, and found that they contained on an average 2 per cent. of arsenic. The deliveries of sulphuric acid were at the rate of 7 to 8 tons a week. At this rate over four tons of arsenic would be supplied in thirty weeks, or 2,191,000 grains—enough to kill 1,000,000 people!

Mr. Edington, the Government bacteriologist, has discovered anthrax in the suspected cases of plague at Cape Town of which I have

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doubtful ones. Two deaths have occurred, both victims being Kaffirs. There is only one white patient suffering from the disease in hospital. Twenty-four colored persons and 79 Kaffirs are in the "contact" camp. The authorities are redoubling their efforts to check the progress of the plague. The thousands of natives living in filthy hovels in the city are a source of great danger and the Government has decided to remove them to a location which is to be formed immediately on the Cape Flats.

The Hunterian oration at the Royal College of Surgeons, which was instituted to commemorate the work of John Hunter and his successors, was delivered by Mr. W. C. Macnamara, F.R.C.S., who took for his subject "The Form of the Human Skull and Its Relation to the Origin of Prehistoric Man in Western Europe." This subject there is reason to believe occupied the attention of John Hunter, the unrivalled collection of skulls in the museum of the College having been founded by him. From an analysis of the maximum number of anatomical characters common to man and anthropoid apes, it is proved that they are derived from the same stock. How has the difference arisen which exists between them as regards intellectual capacity? The body of an ape sometimes weighs more than that of man, but the brain is only half as heavy as that of an average European. The defect in the size of the ape's brain is most conspicuous in the anterior lobes. They have no speech center, consequently they cannot acquire speech. The defective anterior lobes of the ape are due to the small capacity of the skull caused by closure of the sutures, during the first year of life. An ape's brain, therefore, remains always an infantile brain; whereas in man the fore part of the skull does not consolidate until adult life and the speech center may continue to develop until the twentieth year. But this was not always true, for the human skull found in a tertiary formation in Java is clearly on the border line between man and apes and the skulls of the men living in Europe during the preglacial and interglacial periods resemble in form and structure more closely the crania of the chimpanzee than those of existing Europeans. In the post-glacial formations are skulls of the same type, but more highly developed. These post-glacial people were a short, powerful, long skulled race, the Africo-Europeans or Iberians who seem to have been the sole inhabitants of our continent at that period. Their stone, bone and horn instruments were superior to those of the glacial period. Their development is attributable to an alteration in the climate and fauna of Europe which compelled them in the struggle for existence to make greater use of their brains than their respond to this call. As the neolithic period advanced the remains of a very different race are found in Western Europe. The men had large, well-formed skulls, possessed animals of an Asiatic stock, and used a language which still survives. They are believed to have been a branch of the Proto-Aryan race. Their remains are found in the Cro-Magnon and Mentone caves of France and in the long dolmens of England, Ireland, Europe, Asia, and North Africa. Then followed the bronze period when hordes of a short, small-boned, broad-skulled, Mongoloid race from the southeast of Asia passed into Europe bringing with them bronze instruments which gradually supplanted the stone and bone articles in use. They were the lake dwellers of Switzerland. In time they became absorbed into the pre-existing inhabitants and formed the ancient British stock. They were subdued by hordes of Teutons from Northern Europe and intermarried with a remnant of them, forming the Anglo-Saxon race. The existing European population is thus a mixed race. Nevertheless, from the measurement of the heads of 10,000,000 people it has been ascertained that in those countries which border the Mediterranean the people are still a short, dark, long-skulled race (Iberians). North Germany and Scandinavia contain a large proportion of the tall, fair, long-skulled Teutonic race (Aryan), and a vast triangle with its base in Eastern Russia and its apex in central France is inhabited by the descendants of the broad-skulled Mongoloid and Turanian races of central Europe. Environment acting for long periods on people of the same race has produced not only fixed hereditary physical character, but also specialized areas of nerve structure by means of which mental characteristics are transmitted as different as those of the Iberians of South America are from those of the Anglo-Saxons of the United States. Applying these principles to the vast and increasing populations of our towns Mr. Macnamara concluded that even in a few generations the people show indications of changes which will be more pronounced in their descendants. He is convinced that city children are deficient, as compared with country ones, in acuity of vision.

The anti-tuberculosis movement is still active. At Worcester a conference was convened by the County Council to hear addresses on the new method of treatment and to consider the best way of making it available for the poorer classes. The interest taken in the subject was shown by the large attendance, representing the County Council, the various local authorities, the medical profession, and some of the leading county families. Sir James Crichton Browne, who attended on behalf of the National Association for the Pre-

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vention of Consumption, said that it was the work of Pasteur, followed by Lester, Koch and others, which made the present crusade possible. To stamp out tuberculosis might seem chimerical, but nevertheless that was the object of the National Association which was inaugurated two years ago. In 1838 out of every 10,000 persons in England and Wales 38 died of consumption, in 1899 only 13. The rate of diminution was a slightly increasing one and if maintained for another 30 years consumption will have entirely disappeared. The decline is traceable to subsoil drainage, sanitary reforms, increased cleanliness, and improved conditions of life generally. But the beneficent effects of these seem to be approaching a maximum, while overcrowding, one of the most prolific causes, seems likely to increase. The diminished death rate from all forms of tuberculosis means an annual saving of 75,000 lives. Promiscuous spitting should be prohibited for consumption might exist for a considerable time before it was detected. While pulmonary tuberculosis has been diminishing, intestinal tuberculosis, an affection chiefly of children, has been increasing. It is reasonable to connect this with tuberculosis milk. Private slaughter-houses should be abolished and municipal abbatoirs provided where all meat exposed for sale should be subject to inspection. Attention to cow-houses and dairies was of vital importance, infected animals should be separated from the rest of the herd and fattened for killing. Statistics of the open-air treatment are not available, but it seems clear that in the first stage of consumption 50 per cent. of radical cures and marked improvement in 25 per cent. can be obtained.

TRANSACTIONS OF FOREIGN SOCIETIES.

British.

SKIAGRAPHY VERSUS THE PRACTITIONER—OVARIAN CYSTS—MECHANISM AND MANAGEMENT OF THE THIRD STAGE OF LABOR—AGGLUTINATION PHENOMENA—EXTENSIVE INTESTINAL RESECTIONS—INSTANTANEOUS RADIOGRAPHY.

W. H. BROWN, at the Leeds and West Riding Medico-Chirurgical Society, January 11, 1901, discussed the skiagram and its relation to the practitioner, especially in a medico-legal sense. The time has passed when the public was satisfied whether or not a limb was useful and strong after fracture. The appearance of the skiagraph in the field and especially within the reach of the laity has been a dangerous factor for the reputation of physicians and surgeons and often not deservedly so at all. Very likely many suits have been unjustly brought and in some cases even without warrant, because the local savants have turned the X-ray machine upon a limb otherwise perfectly sound and serviceable, but with the bone not mathematically or esthetically straight. The practitioner can protect himself always in one of two ways, best by both. He should treat no fracture without the aid of a consultant and he should always take a skiagram before and after reduction in order to prove what has been accomplished by the setting.

F. W. N. HAULTAIN, at the Edinburgh Obstetrical Society, January 9, 1901, read a paper on the intraperitoneal rupture of ovarian cysts. In the majority of cases beyond question the rupture occurred without the knowledge of the patient, unless the tumor had been so large as to have attracted attention. The reasons for this are that the peritoneal cavity is purely potential and the contact of this viscera with each other hinders rapid escape of the cyst-contents; and also that in most cases the evacuations are sterile and harmless. In those cases which are recorded the majority show severe or even fatal symptoms. Palm in a series of 18 cases mentions 3 deaths due to collapse, 6 to acute peritonitis, 6 to chronic peritonitis and 3 to continued fever. Nepleen in 155 cases shows 65. The causes of death were chiefly profound irritation by the cyst-contents, sepsis and hemorrhage. The causes of the rupture of the cyst are variously stated, violence, morbid cyst-wall, intracystic hemorrhage, thrombosis, and twisted pedicle. Commonest of all is the softening of the cyst-wall when the cyst-contents are gelatinous. Such jelly-like contents are very slowly absorbed, hence may distend the abdomen if originally copious or if their production continue for any reason and, therefore, are the form of abdominal contents usually discovered after such rupture. On the other hand, many cysts are filled with practically only normal salt solution, which is absorbed so rapidly that it causes temporary polyuria. Such cysts, especially those in the broad ligament, may undergo total obliteration, or secondary single or multiple cysts may and often do arise as is shown by the presence of cicatrices in the walls of those found *in situ* at operations. Rupture, with spontaneous evacuation, or operative tapping, if done long before the laparotomy, often produces peritonitis, through the irritative quality of the fluid, so widespread as to render subsequent removal of the cyst-wall impossible. The treatment consists in such cases of the removal of the cyst as soon after evacuation as possible, thereby avoiding the risk of adhesions inherent in delay. At the laparotomy the mere incision of the peritoneum might be followed by such a gush of fluid as to simulate opening of the cyst itself. Stripping of the parietal peritoneum might then be done on the supposition that the cyst-wall is being enucleated. To avoid such an error the incision should always admit the hand for thorough exploration. The symptoms of rupture of a cyst are often so acute as to simulate any of the acute surgical abdominal conditions, especially when no cyst or other pelvic tumor has been previously discovered. In such cases the operation is *per se* exploratory.

B. HART discussed uterine retraction with spe-

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stage of labor and its mechanism. There are discrepancies between the theories of the mechanism of the third stage and the practice of its management. Retraction he defined as a distinct muscular action (a contraction) in which some of the thickening of the uterine muscle was maintained after the real contracting force had been expended. At autopsy postpartum normal uteri all seem to show the wall thinner at the placental site than elsewhere. Uteri removed during the Porro operation have uniformly thick walls, probably because of the stimulus of the longitudinal and transverse incisions. Uteri taken from the body after death, intact with the placenta *in situ*, always show a thinning of the muscle over its attachment, which is indeed thinner than anywhere else above the retraction ring. He next emphasized the importance of the elastic recoil of the womb produced no doubt by the large amount of elastic tissue in its walls. Such recoil occurs after each pain during the period of repose. The final point is that the placenta separates by a disproportion between this recoil as it occurs in the placental area and elsewhere. Hence, before such separation has really occurred the Credé method of expulsion is dangerous.

F. W. ANDREWS and H. A. SCHOELBERG, at the Pathological Society of London, February 5, 1901, gave a preliminary report of the results of their experiments as to the relative agglutination phenomena, seen after immunization against the bacillus typhosus and its allies. Andrews pointed out the importance of observing and recording the *quantitative* factor in all these cases. The degree of dilution at which a given serum will produce clumping has an important bearing on the diagnosis. Experimental immunization against the various members of the group of bacteria of which the bacillus typhosus is a member offer the best means of observations. The questions attacked were: (1) Does the poison exist as a soluble entity which may be filtered off from the medium in which the germs have grown, or as a constituent of the cell-protoplasm of the bacterium itself? (2) Is the reaction of agglutination evoked by a product common to all the members of the group or peculiar to each species alone? Klein and others have already shown that several species possess a common poisonous product and that each also produces its particular toxin. In their experiments, carried on chiefly by Schölberg, the aim was to reach as accurate an estimate as possible of the *quantitive* factor in these cases. The point determined was the limit of dilution at which a given serum will produce agglutination in a definite time (one hour) in emulsions of living organisms prepared from fresh gelatin cultures of them. The results of the experiments so far as they have been completed are as follows: (1) The product which is responsible for the agglutination resides in the cell-protoplasm, rather than in the soluble toxins themselves. (2) A share in the process is borne by a product in common to all the bacteria of a mal immunized against the bacillus typhosus and producing active agglutination of it will to a lesser degree excite clumping of the bacillus coli communis and of the bacillus of Gärtner. (3) In addition there is an element present in each species by itself which excites a higher degree of agglutination upon that same species. (4) The rabbit is a more suitable animal than the guinea-pig for these experiments, because it produces serum of higher agglutinating power. Schölberg then described in fuller detail the methods adopted in the experiments and the precautions taken to avoid mistakes and fallacies. The toxins were obtained from the usual broth cultures after they were three months old, and proved to be sterile by cultivations made, repeated, and found consistently sterile. The bacterial injections were made from bacteria grown on dry agar entirely free from the water of expression. Suspension of a variable amount of agar culture was made in sterile normal saline solution and heated to 70° C. for sixteen minutes. Cultivations made from the bacteria injected were sterile. Broth cultures were not used in making the emulsions for agglutination tests, because they are not reliable. Gelatin cultures from forty-eight to one hundred and twenty hours old were used in the emulsions with sterile normal salt solution. Carefully plotted charts were prepared for comparison and exhibited. The first agglutination experiment was done on the fifth or sixth day after inoculation with Prof. Wright's sterilized broth cultures, bacillus coli and Gärtner's appearing one day later as the bacillus typhosus rose. The coli and Gärtner curves ran together, but independently of the typhoid. Inoculation of animals with pure typhoid toxin gave an average maximum dilution of 1 to 40 for typhoid; the coli and Gärtner were entirely negative at that index. On one occasion only when the typhoid index was 1 in 100 did the other two agglutinate and then after dilution of 1 in 10. Using the bacteria only in the rabbit, agglutination occurred on the fifth day for typhoid and on the sixth day for the Gärtner and the coli. A maximum dilution of 1 in 500 for the typhoid was represented by 1-50 for the other two on the ninth day. Using guinea-pigs the reaction was not so active and showed that when Gärtner's bacillus was inoculated the reaction for the typhoid and coli were negative, although for the Gärtner it was present at a dilution of 1 in 130.

T. MYLES, at the Royal Academy of Medicine in Ireland, December 7, 1900, presented a paper on the removal of large sections of the intestine in man and animals. One of his patients was brought before the meeting. The ten-year-old boy was run over by a truck carrying a ton and a half of grain over the mid-lumbar region while lying upon his stomach. This great traumatism produced no fracture of the vertebræ and very little external evidence of its presence. Seventeen hours after it a laparotomy revealed extensive damage to the intestine and a long trans-

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verse rent in the mesentery. The length of intestine resected measured eight feet four and a half inches. The patient made an excellent recovery. His present condition is merely that of looseness of the bowels and an abnormally large appetite. The balance of his paper concerned the results of experiments on animals and an analysis of thirty-three cases in which over three feet had been removed in man. The conclusions are from these cases that when less than six feet six and a half inches are removed the intestinal symptoms are, as a rule, wanting, but present when more than this length is taken. Children seem to bear these extensive removals better than do adults, just as they often do other interferences.

E. W. SHENTON, at the Clinical Society of London, February 8, 1900, discussed instantaneous radiography, by which is meant the reduction of the exposure to reasonable limits, from one to thirty seconds. This can be accomplished by using larger and stronger tubes, which will not only shorten the time, but actually increase the penetration, revealing deeper parts of the body. Such are very valuable for detecting foreign bodies and especially for renal calculi. The writer has found a very simple method of locating the depth of foreign bodies with rapidity and accuracy. The tube is moved from side to side and the differences between the rates of movement of the visceral shadows and that of the foreign substance are noted. These depend upon the differences of distance from the tube. If now a probe is placed behind the screen at such a distance that its movements approximate those of the foreign substance, we have the first index of the position of the latter. Repeating the process from various directions, the exact location of it is determined rapidly and easily.

SOCIETY PROCEEDINGS.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, Held February 7, 1901.

The President, Robert F. Weir, M.D., in the Chair.

(Concluded from page 363)

Results of Conservatism.—In Dr. Dudley's 182 cases, 129 resulted in the cure of all symptoms. In most of the cases multiple operations were necessary because the pathological conditions were complex. In sixty cases plastic work had to be done on both tubes and ovaries. In 120 cases the tapping and splitting of cysts was indicated. Out of 182 cases 27 have become pregnant and 22 children have been born at term. In one case, that of a woman forty-two years of age, who had been nine years married, one ovary and tube was removed and the other tube freed from adhesions. A six-pound-boy was born two years later. In this case the woman's condition was so poor that a general anesthetic was not given and the operation was done without anesthesia. In two cases a club-shaped tube was removed and the tube was carefully left open as far as possible. In both pregnancy resulted and living children were born.

Implantation of the Ovary.—Dr. Dudley transfers the ovary in certain cases from its original position to an incision in the fundus of the uterus. This he calls ovarian implantation in contra-distinction to transplantation of the ovary, which consists in removing it from one part of the broad ligament to the other. Dr. Dudley's method when the tubes are destroyed by a purulent degenerative process, or have to be removed because they contain intensely virulent infectious matter, consists in incising the uterus at the fundus and implanting the ovary. In six women in whom this has been done, menstruation has continued and the women have been very well satisfied with the results of the operation. Others have claimed to have done this operation before him, but Dr. Dudley considers that his right to priority in the matter is incontestable. During a recent visit to the continent he was assured by several prominent operators that they were using his method of implanting the ovaries with great satisfaction.

Gynecological Reaction.—Dr. Coe said that sixteen years ago it was not unusual to see tubes and ovaries showing no signs of disease presented at a meeting of a surgical society. Theoretically, conservative gynecology is eminently indicated. In practice, however, its results are not so favorable as to symptoms, anatomy, or pregnancy as some of its protagonists declare. It is very difficult to understand how conservative surgery can be properly done through the vagina. It is impossible to see anatomical details as satisfactorily as is necessary to do hopeful conservative work. The adnexa may be resected, but they cannot well be put back in place. It is not sufficient merely to drop them back into the pelvis, for they are then sure to occupy a displaced position, their blood-supply will be interfered with, and symptoms produced. There was a time when the appearance of a cyst in an ovary was considered good grounds for its removal. Ovaries were removed on suspicion. It is very much easier to do too much than too little. As a rule, patients are not so anxious for pregnancy as for the relief of symptoms. Unless symptoms exist that make life almost a burden, very few women are satisfied to have an abdominal operation done. The necessity for a secondary operation, or even its possibility, will usually lead the patient to decide against conservative gynecology if the case is properly presented. Even with the most favorable statistics only about a six per cent. of sterile patients are made fertile. This is certainly not an encouraging percentage for a serious operation with always the risk of some mortality.

Operative Indications.—Dr. H. J. Boldt said that there are two disease types of special interest: First, those in which there is absolute indication for radical surgery and, secondly, those in which the measure of conservatism is left to the operator. When cysts occur in the ovary, for instance,

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seems a special indication for conservatism. The operation is usually done for symptoms, however, and the puncture of cysts will often not relieve the symptoms. There may be some measure of relief for a time after the operation and then a recurrence of symptoms. It is even questionable whether such cysts have as much to do with the production of symptoms as is often thought. Simple puncture does not destroy them. The cautery seems indicated and yet undoubtedly produces more injury than is necessary. According to the view at present accepted conception takes place in the tube. If the tube is resected, where will conception take place and is there any hope for pregnancy after resection of the tube?

Failure of Conservatism.—Dr. Egbert H. Grandin said that in all the cases of conservative gynecology which he has been able to follow up either a secondary operation had to be done or there was failure to relieve symptoms. This, of course, does not refer to cysts alone, but to gross lesions. The conditions described by the special adherents of conservatism are ideal. Resections of the tube, for instance, cannot be done in the theoretic way described. The conditions being dealt with are eminently infectious. In private practice patients on whom conservative work is done without success fail to return, and so are counted as successful. Other practitioners know better. Where small portions of ovarian tissue are left, the menstruation that occurs is not regular, but very irregular, apt to be painful and too plentiful. The risk of a secondary operation is not justified by the results so far obtained by conservative gynecology.

True Conservatism.—Dr. Philander A. Harris, of Paterson, N. J., said that the operator who tries to preserve enough ovarian tissue to secure pregnancy does not always relieve symptoms as well as he who does a radical operation at once. The woman must be consulted and the case put plainly before her. Amputation and exsection of the tube and resection of the ovary can be done. Conservatism often gives excellent results. Dr. Harris presented a series of photographs from specimens showing what had been accomplished in his practice and demonstrating the success of conservative surgery.

Maternity or Divorce.—Dr. H. N. Vineberg said that conservative surgery in gynecological cases has, in his hands, given some excellent results. In his dispensary practice he comes in contact with a series of sad cases, in which the women come for treatment, not for symptoms, but because they are sterile. If they cannot become pregnant their husbands will get a divorce from them. It is in these cases that the surgeon's skill must be exercised to save every possible bit of tissue and give the woman some chance, however remote, of becoming a mother. Some of the bad results that are complained of are really due to the fact that there are, in addition to disease of the adnexa, pathological conditions of the uterus. These should be treated, either at the same time as question of absolute failure, all uterine conditions must be relieved and modified as far as possible.

SOCIETY OF THE ALUMNI OF THE CITY (CHARITY) HOSPITAL.

Stated Meeting, Held November 14, 1900.

The President, W. L. Baner, M.D., in the Chair.

Rhinoscleroma, With Presentation of Patient.—Dr. H. Jarecky read a paper on this subject with report of the case presented. (See MEDICAL NEWS, p. 420.)

Discussion.—Dr. Beaman Douglass said the case was particularly interesting from various standpoints. The sessile tumor which appeared first in the case was probably not present when the patient went to the different dispensaries. If the patient had that growth, it would have been amputated. In this case the diagnosis rested between tuberculosis, syphilis, new formation, lupus and rhinoscleroma. The day has passed for thinking only those cases rhinoscleroma in which there was a change in the external nose. Probably this was such a case in the start, because it was difficult to explain the absolute shutting off of the pharynx from the nasal cavity without the involvement of the posterior tips of the turbinated bones. This disease certainly was not produced by a malignant growth; new growths were generally unilateral, and this was very extensive and bilateral. As to its being a case of atrophic tuberculosis, it was certainly an atrophic process, but the characteristic active inflammatory condition and induration which tuberculosis always shows had been absent in this case, together with the absence of lung involvement, and the impossibility of any case of tuberculosis with such an extensive involvement of the throat living to tell the tale; therefore, tuberculosis was excluded. Syphilis was likewise excluded, not only from the history of six perfectly healthy children, and the absence of any miscarriage, the absence of skin infection, absence of lymph involvement, but also because there was no destruction of the deeper tissues. A case of syphilis which would have produced so extensive an atrophy or so extensive cicatrization, would also be accompanied by a destruction of the arytenoid cartilages, the thyroid cartilages and the nose, and possibly of the deeper structures of the septum. Lupus was also entirely excluded, not only from the absence of ulceration, but also from the absence of the characteristic cicatrization.

As to the nature of the tissue which had been formed in this case, it was a peculiar lesion. It was something which American pathologists have not had much opportunity to examine, but was described fully by foreign observers, who see a number of these cases in

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granulation growth. It is produced undoubtedly by a coccus or bacillus identical with the pneumonia bacillus. It is a slow chronic granulation formation. In the subepithelial parts the bacillus develops slowly, and as it does so, instead of breaking down the tissue by the formation of new cells, as syphilis does, or as the bacillus of lupus does, it formed an infiltration of large polypoid cells in the connective tissue, resembling the early cells of tuberculosis. These cells undergo a degeneration and are known as Mickulicz cells. The bacillus remains for a long time in the tissue. It begins in the nose, and gradually extends throughout the respiratory tract, invading finally the pharynx, and, sometimes even the smaller bronchi. The speaker had seen cases in Vienna where Prof. Schrötter by his ingenious instrument, the bronchoscope, was able to demonstrate the rhinoscleroma nodule in the bronchus on the right side of the lung, and the clinical exhibition of the obstruction of the lung was verified by examination.

The prognosis of the disease is perhaps not as hopeless as held by foreign observers. One point of great interest in this case was that it seemed to be getting well in this climate, under more favorable conditions of hygiene.

Treatment.—On the other side, the tendency had been to operate and the results from the operation have not been good. Prof. Chiara had abandoned all operations except curettage. He tried splitting the larynx so as to reach the growth from the external wound, but has been disappointed. The disease is apt to reappear. Medicinal applications were of no use, the more favorable treatment being to keep the parts clean, put the patient in a healthy hygienic condition, attend to baths, give the patient a highly nutritive diet.

In the pathological cure the patients get well by a cessation of germ activity, and the bodies of which it was composed gradually disappearing. The hyaline bodies last for a long time, but they sink into the deepest structures of the tissue, leaving the surface, and lie at last near the muscular layer. They disappear and after years connective tissue takes the place of the growth, causing a cure of the disease by cessation of the rhinoscleromatous process.

Dr. Francis J. Quinlan said that conditions similar to the one under discussion were often seen, where in early childhood there were marked destructive lesions, following diphtheritic ulcerations. Scar-tissue was peculiarly susceptible in some to different forms of inflammation, although the present patient presented no evidence of this. He thought syphilis and laryngoscleroma were the only points at issue. There were evidences of subacute inflammatory points that closely resembled syphilitic ulceration, without having any marked destruction of tissue, still, syphilis why not in the oropharynx. Very frequently these forms of latent syphilis will not readily respond to antispecific measures. There may be conditions going on in the deeper structures, especially those of the larynx, where extensive and severe lesions are apt to advance on without responding to remedial agents.

Dr. Wolff Freudenthal said that there is no doubt that hygienic as well as climatic and telluric conditions have an influence on the duration of the disease; but naturally there must be other factors about which little is known. He agreed with the previous speaker that there could only be a question regarding diagnosis between syphilis and the diseases comprised under the name of scleroma. It certainly is not a case of tuberculosis. Dr. Jarecky alluded to a paper written by Dr. Freudenthal seven or eight years ago, on so-called Stoerck's blennorrhea. At that time Dr. Freudenthal said that Stoerck's blennorrhea, laryngitis sicca and rhinoscleroma should be grouped together. He has shown two cases of laryngitis sicca, which had developed into typical cases of Stoerck's blennorrhea. The glottis was wide open in the beginning, and came down to a small half-moon-shaped gap, and all the other symptoms of Stoerck's blennorrhea were present. The speaker hardly thought "the case was practically cured." The disease commenced in the pharynx and trachea and the patient will, surely at some future time, have more trouble from the disease. One may be forced to perform tracheotomy, as has been done in many other cases. Dr. Freudenthal showed a picture of the case he reported six years ago. The patient is no longer his friend, because he would not testify in Court that said patient's physical troubles came from a railroad accident. This man wore a tracheotomy tube for about ten years, and his condition had not changed much for the worse, although he lived in the filthiest and dirtiest neighborhood. In regard to the statement made by a previous speaker, that perhaps more cases get cured here on account of cleanliness, etc., the speaker could not understand in what respect cleanliness can cure scleroma of the trachea or of the larynx, although he admitted that the disease originated in a dirty nighborhood.

Dr. George T. Jackson said that, as a dermatologist, he was interested in the disease as it began on the skin and anterior part of the nose. He asked Dr. Douglass how many of the fifty cases of which he spoke appeared on the skin of the nose. He had seen three cases of rhinoscleroma affecting the nose and nasal septum. One case he saw within a year. It was Dr. Freudenthal's case. He turned up in the Dermatological Society, under somebody else's guidance. Another case was a case of his own, of which he showed a picture.

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He had seen another case, which had developed in this country, a boy, who lived in the neighborhood of Buffalo, and never had been outside of the country. Dr. Wende of Buffalo, brought him to the New York Dermatological Society for confirmation of his diagnosis. This case went on more rapidly than most cases and the boy died. He responded to all the tests in the way of bacteriology, etc.

Diagnosis by Microscopical Examination.—Dr. Douglass said he did not remember exactly, except that he saw very large noses on many of these rhinoscleróma cases. It was not common to have the external part involved, as well as the internal. The time was past when diagnosis was made only when the external nose was involved. The diagnosis was made from the appearance of the lesion. In Vienna, if the case comes from Russia, they take out a piece of the tissue and find the characteristic condition, the presence of the pneumobacillus and the hyaline degenerated bodies. When these came from the nose and throat, it was called rhinoscleroma. However, it was quite frequent to find in these Vienna cases, and some in Hamburg and Berlin as well, that they were frequently associated with advanced destruction of the skin and enlargement of the nose. The diagnosis could not be made from syphilis except under the microscope. Most of them were in a much worse condition than the case just presented, because the pharynx and larynx were covered with nasal pus.

Dr. Jarecky, in closing, said if this condition was caused by diphtheria, there would be adhesions, but no cicatricial bands. The bands extend posteriorly from the pillars across to the lateral walls of the pharynx. He particularly inquired of the patient as to whether she had suffered from diphtheria. As regards syphilis, he put this patient on antisyphilitic treatment and it only made her worse. There were absolutely no lymph-glands enlarged. Baurowitz, in one hundred cases of scleroma, mentioned particularly the loss of the uvula as a distinct diagnostic point; and although it would be lost in syphilis, there would be a loss of substance, but there would not be a smooth, cicatricial scar, as this patient showed. As regards Dr. Freudenthal's statement, that the process began in the trachea, he hardly though that was true in this case. The patient had complained of dyspnea and troublesome breathing for the last ten months, whereas she had sought treatment four years ago, for a trouble in her throat, and had a mouth-wash prescribed. It must have begun in the throat and was still active in the lower parts. As regards tracheotomy, he thought that would not be necessary, as she had received relief from the intubation tubes. No. 1 had been passed two or three times; and as they dilated and ran up the scale, she would obtain more relief. With regard to Dr. Jackson's question, as to in how many cases the external nose was affected in the Vienna clinic, as reported in an article published in the June number (1900) of the *Archives of Rhinology and Laryngology,* the author, in speaking of one hundred cases, mentioned one in which the nose alone was affected.

Vertigo.—Dr. Martin A. H. **Thel**berg read this paper. (This will appear in a future issue of the MEDICAL NEWS.)

Discussion.—Dr. Max Einhorn said that the speaker did wisely in limiting his remarks to those cases of vertigo which emanate from some disorders of the digestive tract, because, otherwise, the subject would be too lengthy for the evening. There was no doubt that there existed a vertigo that was to be ascribed to disorders of the digestive tract, not only to hypersecretion, hyperacidity, but also to disturbances with decreased secretion, or *with* an entire absence of secretion in the stomach.

Not Auto-intoxication.—A great majority of physicians have been inclined to assume some kind of auto-intoxication from the stomach and intestines. Some time ago, in another Society, in a discussion on auto-intoxication as producing the nervous symptoms in constipation, the speaker did not favor this view. The reason for this was that he often saw cases in which there was too much acidity, and vertigo was caused by that acidity, disappearing in five minutes by giving an alkali. This could not be done if the vertigo had been caused by some process of auto-intoxication.

Treatment.—With regard to the treatment of the stomach and digestive tract, these cases will have to be handled individually. There are so many things that may cause vertigo that each should not be treated in the same way. Some patients had intestinal catarrh, which was often the cause. They should be thoroughly examined and the abnormal condition found and treated. Thus in habitual constipation, regular movement of the bowels should be accomplished. If there is catarrh in the intestines, this should be treated. We must always first know the exact condition, before trying to remedy the disease. Often in these cases there were distinct gastric symptoms; nausea, some vomiting, and sometimes the stomach was not to blame for these troubles. One could not be guided by symptoms alone, and should examine all the organs as far as possible. The eyes and ears should be examined. There are always a certain proportion of cases that could not be remedied. He spoke of one patient, who was troubled for a year and a half. His vertigo was connected with fright and it was so pronounced that he was afraid to go to church, or to go to any social entertainment. He would get palpitation, could not do anything, and it disturbed him a great deal. The speaker found some hyperacidity of the stomach and corrected that. He felt his gastric symptoms

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were better, but the original trouble was not entirely remedied, after a treatment of four or five months. In the majority of cases of vertigo the treatment is successful. Every day he saw patients who complained of dizziness and vertigo, caused by the stomach or a disorder of the digestive tract, and they quickly recovered. He thought the subject was of great importance, and the Society should be thankful to Dr. Thelberg for bringing it to their attention.

Vertigo a Symptom.—Dr. E. D. Fisher thought that vertigo should be regarded as a symptom. It was only a symptom of a disease in the class of cases which the writer of the paper had given, and was the result of the various disturbances of the intestinal tract and the stomach. Wherever vertigo was a constant symptom, something that was with the patient at all times, one must look for something different than stomach and intestinal troubles. For the direct cause of that dizziness or vertigo, the brain should be thought of as the seat of the disturbance. It might be a dilated stomach, a condition of toxemia or some other cause which affected the action of the heart, and naturally affected the circulation of the brain. When a local condition, such as an intestinal disturbance, was relieved the vertigo was helped. There is a large class of vertigos which are not at all due to intestinal or stomach trouble, although they might be largely influenced by such. There are patients who have diseased arteries, in whom disturbances of the intestinal tract can produce vertigo.

Dr. L. Marcus did not agree with the writer of the paper that the general practitioner failed to recognize these symptoms. In looking over the literature, he found that most of the works on the stomach, intestines or general medicine acknowledge its existence, but it appeared to him that it was the neurologist who disputed its existence, and it is on this account that he feels certain that the general practitioner recognizes, and treats it successfully, so that few cases come into the hands of the neurologists, thereby causing the general doubt among them of its existence.

Dr. R. C. Newton said there were a number of causes of vertigo that had not been mentioned. It would take too long to go into them all. In general practice one frequently meets with vertigo, more or less pronounced, which may be due to malaria, overeating, nicotine poisoning, working too long in the impure air of class-rooms, and want of muscular exercise; although undoubtedly the vast majority of cases of true vertigo are due to one, often two principal causes mentioned here this evening, namely, either gastro-intestinal disturbance or arterior fibrosis.

Dr. George McAuliffe said that, apart from the local causes of vertigo, such as cerebral causes, a constant factor in all vertiginous attacks was the change in circulation, whether that be induced by stomach or intestinal disorder, or by any other organic trouble. It was a curious fact, however, that the semicircular canals, despite the arguments brought to bear that the organ of equilibrium does not reside there, were directly responsible for attacks of vertigo. He spoke of a case of his, where a slight pressure of the probe produced vertigo, a clear demonstration of the intimate connection of the semicircular canals with the equilibrium. He referred to a case of sclerosis of the middle ear, in which the patient was troubled with attacks of vertigo, which came on at times when they were least expected. He would be walking along the street, and immediately would reel to one side and be compelled to grasp some post to prevent him from falling. The attacks lasted for a few minutes. He found by observation that a good dose of bicarbonate of soda would clear the condition in five minutes. It improved his hearing; as he expressed it, opened his head, independent of any condition of the stomach at the time. There were many cases of heterophoria that caused vertigo. One patient of his at present could not go down the stairway in the theatre or house without getting vertigo. She had to close her eyes and feel her way, one stair at a time. He thought one of the chief causes of vertigo, and the only constant factor in the cases of vertigo outside of the direct cerebral effects, was the circulatory change which was established reflexly.

Dr. Joseph F. Terriberry said that his experience was somewhat at variance with that expressed by Dr. Fisher, namely, that persistent vertigo indicated cerebral trouble of an organic nature, due to arteriosclerosis, and is, generally speaking, in accord with that of the author of the paper. In this connection, he mentioned a case now under his observation. A man past middle life, generally healthy, of good ancestry, with normal muscular system, has for from twelve to fifteen years been greatly troubled by poor gastro-intestinal work, the result apparently of faulty hygienic and dilatory habits. During this while, he has suffered from constipation, absence of appetite, lack of energy, very restless nights due to disquieting dreams, and twitching of his muscles, so violent at times, as to awake him from sound sleep, and more or less frontal headache and dizziness at longer or shorter intervals, during this time. Eight months ago he had an epileptic fit at five o'clock in the morning, and these attacks have recurred at intervals of from three to six weeks since then, and always at the same time. A careful examination failed to discover any organic disease. Correction of his gastro-intestinal condition by hygienic, dietetic and medicinal measures, has resulted in a cessation of the epileptic seizures, disappearance of the vertigo and other head symptoms,

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then, is a man who has been troubled with vertigo for from twelve to fifteen years, and who presents no evidence of organic disease.

Dr. Jarecky said he wished to call attention to one peculiar case of vertigo. Dr. Koles had been treating this case for a time and referred it to the speaker, thinking it might be caused by the eyes. He found over the cornea a little ulcer, gave a wash, and, on healing, the vertigo disappeared. The patient had vertigo for ten days while Dr. Koles treated her, and continued for another ten days till the ulcer healed.

Dr. Thelberg, in closing, said that the point which he wished to emphasize was that with the general practitioner gastro-intestinal vertigo was the most common. He had had a case of recurrent vertigo, which really was the cause of studying up the subject. On looking through all the authorities, he found that everybody differed. This patient had been treated for heart-disease by different practitioners for a long time, but she had no heart-lesions. She could not leave her home alone, because, if she crossed the street she had to rush with outstretched arms and catch hold of something. She could not go in the street-cars. The speaker treated the digestive disorder and cured her. He did not deny that disease of the semicircular canals, as well as other etiological factors, may cause vertigo, but the affection in the majority of the cases was due to gastro-intestinal disorders.

BOOK REVIEWS.

STUDIES OF AMERICAN FUNGI; MUSHROOMS, EDIBLE, POISONOUS, etc. By GEORGE FRANCIS ATKINSON, Professor of Botany in Cornell University. Andrus and Church, Ithaca, N. Y. ($3.00 postpaid).

THIS book on American mushrooms is a work of high economic value, and is beautifully and profusely illustrated with photographs of the fungi taken in their natural states. While it is a thoroughly scientific study of the higher group of fungi, it is written from a broader standpoint than that of a mere systematic study. It indicates the edible fungi clearly, and points out the poisonous ones that resemble them.

Americans do not avail themselves of the bountiful supply of table-mushrooms that grow in the woods and fields as eagerly as do dwellers in European countries. There even the poor know a large variety of the fungi that make an excellent substitute for meat, but it is hoped that the impetus given to mushroom-collectors by the work of the late William Hamilton Gibson will be continued by this more complete book.

Mushroom-hunting has grown to be a fad among physicians during the last few years, especially where every busy man needs an incentive to get beyond the city-limits; and in a number of laboratories and dens the chafing-dish has its place along with more prosaic apparatus. The contribution by Mrs. Rorer of a chapter of receipts for cooking mushrooms will add a very practical value to the book.

Dr. Atkinson's book, however, is not only for the man who collects mushrooms for amusement. It is an authority on the subject of the toxicology and chemistry of mushrooms; and by means of its photographs and descriptions of the deadly species, the physician can at once verify any poisonous species that has been eaten by mistake.

It supplies the most concise and complete recent resumé of the subject of mushroom-poisoning that has yet been published, and for that alone should be on the shelf of every physician, especially in these days when the sudden interest in mushrooms is leading enthusiasts to try everything they find.

AN AMERICAN TEXT-BOOK OF PHYSIOLOGY. Edited by Dr. WILLIAM H. HOWELL. Second Edition. Revised. In Two Volumes. W. B. Saunders & Company, Philadelphia and London.

WE have had occasion to praise this excellent work and in its new edition and new dress it deserves even higher commendation. The plan of issuing two volumes instead of one is specially valuable, as the old single volume was one that required athletic arms to handle. In its present form it is handy and comfortable as a text-book and reference work.

The present edition shows some slight changes in the subject-matter; all of which commend themselves as being more in accord with later-day physiology. The chapter on the central nervous system has been altered more than any other and, it should be said, greatly to the advantage of the work. The previous mode of presentation left much to be answered and was quite inadequate for the purposes of the student. The present chapter, however, is certainly most commendable and, when read in conjunction with the chapters on the special senses, affords a most comprehensive view of the present knowledge of the functions of nerve-structures. Taken all in all, this work reflects the high quality of American physiological activity and is deserving of a generous appreciation.

STUDIES FROM THE DEPARTMENT OF PATHOLOGY OF THE COLLEGE OF PHYSICIANS AND SURGEONS. COLUMBIA UNIVERSITY, NEW YORK. Vol. VII. For the Collegiate Year, 1899-1900.

THE present volume, made up of reprints of articles appearing in current medical literature. is highly suggestive of the excellent quality of the work done in this well-equipped laboratory. In all there are some fourteen studies covering a wide range of pathological inquiry.

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SPECIAL ARTICLE.

RETROSPECTS AND PROSPECTS IN GENITO-URINARY SURGERY.[1]

BY REGINALD HARRISON, F.R.C.S., ENGLAND,
OF LONDON;
LATE HUNTERIAN PROFESSOR OF PATHOLOGY AND SURGERY OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

ALTHOUGH I have but two or three days in your great city, my friends, Professor Dennis and Professor Alexander, have afforded me the privilege of addressing you. I must disclaim at once any intention of giving you anything that is either original or novel. I shall talk of retrospects and prospects in genito-urinary surgery. The end of an old century, the beginning of a new one very naturally makes us look before and behind us. We pick out the landmarks of the past and are tempted to peer into the future. To you, just entering on the practice of medicine, the review of some of the achievements of the past may seem like ancient history. The discoveries of times that are no more may well furnish texts, however, for the illumination of the future.

It would be false modesty in me if, in reviewing genito-urinary surgery, I should attempt to pass unmentioned my own contributions to the science as it has grown in the last half century. You will pardon me, then, if I sometimes seem too personal in recalling the advances that have been made.

Litholapaxy.

The most prominent feature in the progress of genito-urinary surgery during the last century was undoubtedly the development by Bigelow of a method of crushing calculi within the bladder and then the added invention which enabled him to wash out the débris of the crushed stone at a single sitting. It was my privilege to see Professor Bigelow at some of his earliest work on this subject and to hear his anticipation of what might be expected from this invention when it was perfected. May I add that all of these anticipations have been realized. Litholapaxy has taken a deserved place as one of the great surgical measures that saves mankind suffering and reduces mortality.

I had the privilege of demonstrating in England Professor Bigelow's method with instruments furnished me by himself. I have seen his method for treatment of vesical calculus replace all others. I had occasion the other day shortly before my voyage to America to look over the old apparatus which he sent me from America. It is, in all essential features, the apparatus in use all over the world at the present moment for the accomplishment of litholapaxy. The invention came from your great compatriot's brain in all its perfection and needed no after improvement to make it completely successful. Very seldom is it the lot of an individual thus to perfect his work before giving it to the world. It is a sure sign of the genius of the man.

[1] Abstract of an address delivered at the Cornell Medical College, New York City.

Otis' Urethrometry.

Bigelow's work in litholapaxy was undoubtedly influenced by the patient investigations of another distinguished American genito-urinary surgeon. When I had the pleasure of meeting him, in 1878, Professor Bigelow mentioned to me Dr. Otis' investigation as to the size of the urethra and the amount of distention of the healthy urethra would permit without suffering injury. This very practical work of Otis's was almost a necessary preliminary to Bigelow's success. When I saw Bigelow's perfected instrument afterward, I remembered his mention of Otis's work and realized how much he owed to the distinguished New Yorker.

Etiology of Vesical Calculus.

Bigelow's invention has tended also to throw light on the etiology of vesical calculus. Especially the etiological influence of enlarged prostate in the formation of stone became evident as the result of his methods of treating calculus. This influence of the prostate in the production of calculus has been a favorite subject of study on my own part.

It is not generally known that one of the most important contributions to the etiology of stone in the bladder were made as long ago as 1851 by Rainey. His paper was concerned with the investigation of molecular coalescence. He showed that stones could be artificially produced when the solution of certain salts dissolved in urine was disturbed by the presence of unfavorable factors. This chemical side of the origin of stone in the bladder has never been given the attentive investigation it deserves.

It has been a great pleasure to me to be conducted through this magnificent building by my friends among the faculty. I have seen laboratories and class-rooms and anatomical rooms fitted out in a style that is worthy of this great city and of the new century that is beginning. I have especially admired the magnificent equipment of your laboratory. I

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gest that would be more suitable for your investigation in these laboratories and that would tempt more to research than the etiology of vesical calculus. No subject is more fascinating or more important and the mere repetition of Rainey's experiments would undoubtedly throw light on this interesting subject. It seems too bad that this patient investigation with its suggestive results should so far have proved profitless. Let us hope that the new century and American enterprise will make that use of them they deserve.

Prostatic Hypertrophy.

In 1893, Professor J. William White of Philadelphia announced a new method for the treatment of prostatic hypertrophy. On theoretic grounds he suspected a close relationship between the testicle and the prostate. He demonstrated experimentally on dogs that the removal of the testicle led to a decrease in size even of the normal prostate. He argued that the excision of testicles in the human being would probably lead to a reduction in the size of enlarged prostate. The method was tried on several patients and the surmise of Dr. White proved to be not without some foundation. Other investigators found that the exsection of a portion of the vas deferens had the same effect on the prostate as the excision of the testicle.

This method of treating prostatic hypertrophy has given rise to a good deal of controversy. Undoubtedly the method of treatment, whether by removal of the testicles or vasectomy, has given a certain measure of successful results. Those results are so variable, however, as to leave the subject almost more obscure than before. In certain cases the measure of relief afforded is very striking. In others practically no good is accomplished. The whole subject requires reinvestigation and will well repay any work that may be done on it.

Meantime these seven or eight years during which Professor's White's work has been the subject of controversy have not been wasted. We are beginning to recognize now better than ever that under the term, enlarged prostate, or hypertrophy of the prostate, there are included not one but many pathological conditions. To talk of enlargement of the prostate simply without any further definition of the term is now almost as crude and unscientific as if a surgeon were to talk of enlargement of the breast without defining the different forms, of enlargement of the tonsils without explanatory differentiation. Our success in the treatment of prostatic hypertrophy depends on our ability to differentiate the various forms of the disease which occur. We need to determine precisely the character of the enlargement, and for this the only sure means is ocular inspection. A case that illustrates this very well was from England. The patient suffered less than two years ago from a stone in the bladder which was removed by litholapaxy. Another calculus formed before the year was out and a second recurrence of the stone took place before the expiration of two years. With a cystoscope I found that there existed a pouch in the enlarged prostate. A tongue of prostatic tissue extended backward into the bladder forming a sort of lid for a box within the folds of the prostate and it was in this that the stones had formed. Besides the stone which had escaped into the bladder and which had been detected by the sound, two smaller ones were in process of formation within the prostatic pouch. I made a median incision and twisted off the tongue of prostatic tissue and the man made a good recovery. Two weeks after the operation he was practically well.

Recently I have described three forms of prostatic hypertrophy. These three are so characteristically distinct from each other that it is very unlikely that they will admit of uniformity of treatment, or that any one method of dealing with them will bring the relief of symptoms in all cases. Since landing in New York I have seen Dr. Alexander's specimens and these have modified my opinion as to the forms of prostatic hypertrophy which exist. Dr. Alexander's specimens certainly extend our information as to prostatic condition beyond what it was before. I am free to confess that they were for me a suggestive chapter in the pathology of the prostate. I have not been wedded to my own divisions in prostatic pathology and the modification of my views since seeing the specimens here forms a good illustration of the fact that we must not be ready to formulate cast iron distinctions that will admit of no modification. I must take this occasion to express how much genito-urinary surgeons owe to Dr. Alexander and how much we expect from his future work.

The first form of prostatic hypertrophy and one that is of a great deal of interest is the simple enlarged prostrate which bulges upward and backward into the bladder. This form of prostatic hypertrophy is more generally cured than any other by castration, vasectomy, or by the Bottini operation. What Bottini's operation really accomplishes in these cases is an obliteration of the upper projecting portion of the enlarged prostate which because of its projection in the trigone is interfering with urination.

The second variety of prostate is the one that I have already described in speaking of the relapse of stones in the bladder. In these a tongue of prostatic tissue or a median lobe of the prostate is the active agent that interferes with the emptying of the bladder. For these cases castration or vasectomy as a rule does absolutely no good. The median tongue of tissue must be removed.

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The third variety of prostatic hypertrophy is that in which there occur in the midst of the enlarged prostate hard glandular growths, adenomata they really are. For this form of prostatic hypertrophy castration and vasectomy are always failures and Bottini's operation will invariably be done without success. I shall never forget one of my first experiences with this form of enlargement of the prostate. The case was one in which for the removal of a large stone in the bladder, a suprapubic lithotomy was done. The stone was removed without any difficulty and, in passing my fingers around the base of the bladder in order to be sure that no small calculi were left, I shelled out one of these adenomata. It came away without any bleeding and required very little effort for its removal. No other method of treatment would have been successful, however, in relieving the symptoms of enlarged prostates or in preventing recurrence of the stone.

What is needed at the present moment then is not further discussion of the merits of castration and vasectomy, nor of the limits of utility of Bottini's operation, but a precise diagnosis of the form of prostatic hypertrophy which really exists in individual cases. In prostatic surgery as in every other branch of surgery that has developed during the past century, what is needed is more accurate diagnosis with adaptation of the treatment to the specific affection which exists and not the application of general methods to a supposedly general condition which has no existence in individual cases.

Surgery of Kidney.

The surgery of the kidney even in its present stage may be regarded as one of the most important advances of the century that is just passed. What has been done for renal stone, growths, distentions with pus and urine, abnormal mobility and other painful affections of this part is sufficient to indicate this. Nor is it at all likely that we have reached limits in the surgery of the kidney which cannot be extended much further with great advantage. The interesting question for us just now, however, is, What is there in the future of the surgery of the kidney? Is there, for instance, anything that can be done by surgical means for the relief of albuminuria, or for the prevention of the development of degenerative conditions. There is no doubt that albumin has been found for long periods in the urine in connection with stone or abscess of the kidney and that after the surgical treatment of these conditions the albumin has disappeared and the patient has completely recovered.

A very interesting subject that I discussed in a paper that appeared some years ago in the *Lancet* seems worthy of consideration here. I allude to the effects of tension arising out of excessive excretory efforts on the part of the kidneys and resulting in congestion and inflammation which in some instances are probably more disastrous and far reaching in their local consequences than the severe surgical conditions of the kidney already mentioned.

There is no more delicate organ in the body than the kidney. There is no doubt that the delicate, complicated, secretory structure suffers severely from congestion. When the congestion is intense, lasting harm may be done. In several cases I have had the opportunity to see congested kidneys in the very acme of their congested state. They are not only of a deep color that is almost black, but the capsule of the kidney is tense and shining, because so overstretched. If such a kidney is punctured during an exploratory operation upon the kidneys the blood is found to be present in it under great pressure, so that it gushes forth.

There is no doubt that this pressure, as in the testicle, may work serious and lasting harm. It is not improbable that under circumstances like these, lesions are produced which lead to the formation of connective tissue and prove the foundation of the hypertrophic and atrophic condition of subsequent chronic nephritis. Renal glaucoma is the name that to me seems most suggestive for this condition.

I had occasion to say some years ago that if certain organs of the body occupied other positions than those where Nature has placed them a variety of morbid conditions to which they are respectively liable would receive somewhat different treatment from that which has hitherto been adopted. Of the complex organs of the body the eye furnishes us with the best example of what surgery is able to accomplish in removing obstacles and impediments to vision and in combatting the disastrous effects of intraocular tension and the degenerations arising therefrom.

Modern antiseptic surgery, however, has brought even the internal organs of the body within the range of the surgeon's skill without imposing any very great risk on the patient. For the condition of congestive tension in the kidney, an aseptic exploration with puncture of the capsule might easily be done without great danger. This operation would perhaps serve as a prophylactic against the development of kidney disease later in life. I have had some personal experience with cases of this kind that have proved very encouraging. Others have taken up the subject in a way to make me think that this idea may be developed successfully. At the next session of the British Medical Association there are two questions that I have proposed to set down for discussion.

First.—To what extent may kidney tension, as in inflammatory conditions and congested states, be responsible for the serious damage in these organs that often follows. Is this excessive tension the etiological factor in chronic degeneration, or chronic Bright's disease? In a word does the expression renal glaucoma

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Second.—When is it expedient and justifiable to relieve this tension by exploratory laparotomy and puncture of the capsule of the kidney?

The kidney and its functions remain as yet a great mystery. The urine is an extremely complicated solution and its suppression may cause the most serious symptoms. Re-absorption of its constituents may readily give rise, as every genito-urinary surgeon knows, to septic conditions. The irritation of a simple bougie, or of a sound, or the wound produced by urethrotomy may easily prove the point of serious infection when urine is passing over it. Long ago under Lord Lister's influence I suggested the use of boracic acid as a prophylactic for these septic accidents. It has proved of great service to the genito-urinary surgeon, but there still remains a large field for investigation as to the ways and methods of making the urine aseptic.

The understanding of urinary tuberculosis is a chapter and a very important one that is just opening up. Janet and Guyon and Albarran have been doing good work in this specialty and the obscurities of pathology and of clinical observation are clearing up.

At the present time good men are at work all over the world in the specialty of genito-urinary surgery. It is no wonder that we have advanced. Practice of the specialty has become a most honorable profession. Great advances can be looked for in the new century that is opening up and especially in this new country where you have the enterprise, the equipment, and the opportunity for the work.

ORIGINAL ARTICLES.

CEREBROSPINAL MENINGITIS (WEICHSELBAUM, JAEGER) TREATED BY REPEATED LUMBAR PUNCTURE.

BY HENRY KOPLIK, M.D.,

OF NEW YORK;

ATTENDING PHYSICIAN IN CHARGE OF THE CHILDREN'S WARD, MT. SINAI HOSPITAL, NEW YORK.

CEREBROSPINAL MENINGITIS, whether epidemic or sporadic, is now recognized as an acute infectious disease the direct inciting cause of which is a micro-organism. The bacteriological investigations open to us on this very important subject divide themselves into two distinct groups. A large number of cases investigated by one group of observers corresponds to a type of disease which thus far seems to have occurred either in small isolated groups of cases, or in localized epidemics in barracks or military hospitals. These cases have been met also in large and more disseminated epidemic groups.

In this type of disease we find bacteriologfound either in the fluid withdrawn from the arachnoid by lumbar puncture during life, or in the exudate on and about the meninges postmortem. It is seen mostly in the pus cells, sometimes outside of the same. It has a form very similar to the gonococcus, is decolorized by Gram and reminded the earlier observers of the gonococcus. This is the so-called *diplococcus meningitidis* of Leichtenstern, Weichselbaum, Jaeger, Heubner, Finkelstein, Councilman, Mallory, Wright, and many others.

These cases have been accepted by Weichselbaum, Jaeger, Councilman and Osler to correspond to the type of so-called epidemic cerebrospinal meningitis of older writers. We cannot conclude, however, that these cases in which the *diplococcus meningitidis* is found represent the only forms of cerebrospinal meningitis. There is another group equally as large, if not larger, in which a number of observers, whose skill and accuracy is undoubted, have found a micro-organism which corresponds to the *diplococcus pneumoniæ* of Fraenkel. These cases also have occurred in epidemics or large groups. It seems, however, that these cases have for the most part been complicated with lobar or bronchopneumonia or have followed as a complication of otitis media.

In order to reconcile the diverse bacterial results in both these groups of cases, Netter, Foa et Burdoni Uffreduzzi, and Baumgarten have attempted to show that the etiology in the cases of cerebrospinal meningitis caused by the *diplococcus meningitidis* and that of the cases caused by the *diplococcus pneumoniæ* was identical. The intracellular diplococcus of Leichtenstern, Weichselbaum and Jaeger was with them only a degenerate form of the diplococcus of Fraenkel.

To accept this theory would be to overthrow the unity of etiology of most diseases, a position no one is willing to assume. We must to-day thus recognize that there are two distinct groups of cases, one of much severer course and of a more fatal character, usually complicating or occurring with lobar pneumonia or bronchopneumonia caused by the *diplococcus pneumoniæ*. The primary affection, however, of cerebrospinal meningitis, if we accept the investigations as they stand in the literature, is caused by the intracellular diplococcus of Leichtenstern, Weichselbaum and Jaeger, the so-called *diplococcus meningitidis*.

To-day, the important question is whether this disease may occur sporadically. If so, then cerebrospinal meningitis is a disease which occurs epidemically and sporadically and in both forms has a similar etiology and symptomatology. One peculiarity of this disease is that cerebrospinal meningitis is scarcely epidemic in the same sense as typhoid fever, scarlet fever or measles, or even diphtheria. We rarely find that several members of a family are attacked. If we study the liter-

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ature—and this is well brought out by Councilman—it is seen that the disease occurs epidemically in the sense that a large number of cases will occur at one time or at one season of the year. The cases crop up at distant parts of a town or city widely separated from each other. The disease has no great tendency to spread. It seems to localize itself in groups in the places in which it occurs. This is well illustrated in the epidemics reported in barracks in which the disease has in few instances shown a tendency to spread outside these military stations to the populace of the town or city in which they were situated, and this only to a limited extent.

The epidemic reported by Councilman is one of the largest. In this epidemic a glance through the cases shows them to be isolated ones. The map shows the groups of cases occur widely separated. In this respect the comparison by Osler of this disease to pneumonia may be apt.

Henoch raises the question as to what in this disease can be called the epidemic and what the sporadic occurrence of the disease. We certainly would not call a group of eight or ten cases an epidemic. It may represent a local outbreak of exceedingly limited character. Scarlet fever is very much of this nature; we have local outbreaks of the disease constantly epidemic, but rarely epidemics. If we have the isolated occurrence of a small number of these cases; if such cases come to us from streets widely separated; if such cases also extend over a number of months, we may fairly call them sporadic.

It is to this important group of cases, the sporadic form of the epidemic cerebrospinal meningitis type, as it occurs in children, that I refer. Of the 111 cases studied by Councilman 29 occurred in infants and children below the tenth year of life. It is, therefore, quite frequent in this class of subjects. There are no large epidemics among children on record in which detailed symptomatology is given. If we analyze the epidemic cases of Councilman, we find a striking similarity in the symptomatology. If the case was that of an infant, the disease set in quite regularly with convulsions, soon followed by unconsciousness, rigidity of the muscles of the neck (*genick starre* of the Germans), and opisthotonus. In older children the symptoms of invasion were headache, fever, vomiting, stiffness of the neck, delirium and opisthotonus. The subsequent symptoms found in the summaries of Councilman's cases are much the same. The fever continued, there were chills, delirium, *tache cérébrale,* opisthotonus, herpes, roseola, the pupils in some cases being unequal, in others there was a total or partial blindness. In a few cases otitis is noted. Hyperesthesia and tenderness of the muscles of the neck, diminished reflexes, and finally arthritis make up the points found very briefly noted in the *résumé* of cases.

The vomiting may occur at the outset or in the course of the disease and is cerebral in origin. It may occur during the disease and prevent the taking of food (Councilman). The delirium may be either of a low muttering character or of a violent nature. There may be intervals of consciousness alternating with delirium. Pain in the back of the neck, extending over the whole body and amounting to hyperesthesia, may be present. Headache was intense. Patients were extremely sensitive to touch.

Rigidity of the muscles of the neck in some cases extended to the muscles of the back. It was present in all but 29 of Councilman's patients. As is well known, it is the characteristic symptom of the disease and has led the French to the adaptation of the German term *genick starre* as the most characteristic of the symptoms. Coma varied in intensity from day to day and alternated with periods of stupor and consciousness. Paralyses were infrequent. Facial paralysis was present in two patients. In another patient paralysis of the leg was noted. In another hemiplegia.

The skin lesions, generally petechial, which have led to the name of spotted fever, are not noted to a marked degree in the more modern epidemics. In the children in Councilman's set of cases we find erythema, petechiæ, hemorrhages and herpes. In the fatal cases petechiæ and hemorrhages are noted.

Eyes.—In cases of the childrens' series we find conjunctivitis, desiccating keratitis, strabismus, contraction and dilatation of the pupils with little or no reflex action of the pupils, inequality of the pupils, neuritis of varying grades from reddening of the disc to violent inflammation of the choked disc variety, postneuritic atrophy and purulent choroiditis (Edwin E. Jack, Boston Children's Hospital).

Ear.—Ear symptoms in many cases vary from plain deafness to otitis with discharge from the ears or even mastoiditis. The ear complications which have been especially studied by aurists in children may amount to complete deafness or may affect the gait. The child in such cases walks with a swaying tottering motion (Gahlberg, Councilman).

Nose and Throat.—In most epidemics the secretions from the nose and throat have been examined, and it was found that they contained diplococci which decolorized with Gram. Councilman examined fifteen patients, in ten of whom he found diplococci as above.

Joints.—These were affected in adults (Osler, Councilman). We find no joint complications in the children. The blood showed leucocytosis. The temperature and pulse will be considered later.

If we study the cases either of sporadic or epidemic cerebrospinal meningitis in the older text-books on diseases of children, we see that the writers seem to regard the cases which occur sporadically and those which occur epi-

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in the present epidemics. Some writers, such as Henoch, are not quite certain as to whether they should regard the cases occurring in small groups as being similar in etiology and symptomatology as the cases occurring in epidemics of larger numbers. For my part, I would regard cases as sporadic which occur in very small limited groups, the isolated cases having no relation with each other. The absence of anything like an extended epidemic is also an important guide and the occurrence of the cases at long intervals, though in the aggregate they may amount to six or ten cases in a hospital service in the course of the year.

The cases which I report were those occurring in my hospital service in the past year. The first was admitted April 23, 1900; the second, April 29, 1900; the third, May 3, 1900; the fourth, August 21, 1900; and the fifth October 26, 1900. Two occurred together, but had no relation to each other. We may fairly call such cases sporadic. They lived in widely-separated parts of the city, and there could not be traced any relationship between these cases and others of a like character.

The symptoms of invasion in the youngest patient, an infant eight months old, are the most interesting. They began with a conjunctivitis six days before admission, which conjunctivitis preceded meningeal symptoms. The infant developed convulsions and went into a semicomatose condition with a febrile movement, but no vomiting. In this condition it was admitted to the hospital.

The other cases occurred in older children. In one patient, a boy four and a half year of age, the illness was preceded by a fall on the head. (I lay no stress on this as in most children there is an indefinite history of a blow or a fall.) In this case the initial symptoms were vomiting, fever, difficulty in swallowing, no rigidity of the muscles of the neck, and general convulsions followed a day before admission by stupor. In this condition the patient was admitted to the hospital ward.

In another patient, a female child eight years of age, there was a history of being pushed at play and of striking her head against a railing. There was no wound. Five days before admission she complained of headache, vomiting; she became delirious, in which condition, with opisthotonus, she was admitted to the ward. Another patient, a female child nine years of age, complained sixteen days before admission of headache, vomiting, with chills, followed by fever. The chills recurred daily for ten days. The headache was frontal and occipital. The neck became rigid and painful. She became dull and apathetic. In this condition she was admitted.

The last patient was a male child twelve years of age. Three days before admission there was frontal headache with constant stomach.

If we compare the histories of the older children we find the symptoms of invasion much the same. The history of the infant finds its counterpart in some of the cases of Councilman (Case CI.), but it is of especial interest on account of the specific diplococcus conjunctivitis which preceded the meningitis. The other symptoms of these cases after admission may be grouped as follows: Rigidity of the muscles of the neck (*Genick starre*). This was present in all the cases, in some being so pronounced as to give an opisthotonus. There was great pain in the muscles of the neck if any attempt was made to straighten the same.

Cerebral Symptoms.—In most patients there was delirium, stupor or coma; in one simply headache. The headache in cases in which the periods of unconsciousness alternated with delirium or semiconsciousness seemed to be the principal head symptoms. There was great hyperesthesia of the surface in some. The patients would cry out if the bed was jarred or the skin touched. In one infant there were unilateral convulsions.

Reflexes.—The patellar reflex may have been absent; those of the plantar were present. In some patients the reflexes were increased later in the disease. In another patient the knee-jerks were exaggerated on admission. In one case bilateral clonus at the ankle was noted. Babinski's sign was absent in all cases. Kernig's symptom was present in all but one patient and persisted for some time into the convalescence.

Skin Eruptions.—In some there was herpes labialis noted on the upper and lower lip. In others there were successive attacks of erythema, resembling scarlatinous eruptions. *Tache cérébrale* was present in all patients.

Joints.—In one patient there was marked tenderness of the right shoulder, but no swelling. During lucid intervals the patient complained of this pain. In one infant there was felt a peculiar rubbing or friction when the knee-joints were manipulated. There seemed to be slight swelling. In one patient there was abscess of the foot, which when incised revealed pus containing diplococci the exact nature of which remains undetermined.

Eye Symptoms.—These were confined in the infant to conjunctivitis. Diplococci were found in the pus of the discharge, and were obtained in pure culture and decolorized with Gram. The pupils reacted to light. The infant did not seem to see. In the other patients expert examination of the fundus showed ischemia of the arteries of the optic disc. In another, the right eye was normal; the left showed signs of beginning neuritis. In still another the veins of the disc were swollen, and there was some exudation. In this patient signs of neuritis in both eyes persisted until convalescence. There was no palpable impairment of sight. In another patient, there was double

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optic neuritis, which disappeared just before the patient's discharge.

Nasal Secretions.—Nasal discharges in the case of the infant showed diplococci which decolorized with Gram.

Temperature.—This was not characteristic in that it might have been seen in any other suppurative process. For the most part the curves showed a daily rise, which at the outset and in the active stage of the disease reached 106.4° F. There is in some patients a distinctly intermittent character to the curve—the temperature reaching the normal daily, or near the normal. In others the temperature was persistently high with remissions daily of a degree or more. The most important parts of the curves are shown here.

Chills.—Repeated chills, violent in character, occurred in one patient in the course of the disease. In the others, reference to the histories show that they occurred at irregular intervals of varying severity.

Circulation.—The pulse showed marked irregularity; the respirations were increased for the most part, varying in the number per minute throughout. This occurred without any disease of the lungs. The heart in one patient showed nothing abnormal on admission, but after the lapse of a month an aortic systolic murmur developed. Another patient had an aortic regurgitant murmur on admission. Inasmuch as in both patients there were no symptoms referable to the heart, we are unable in the absence of an examination prior to the present illness to state positively as to the presence of an acute endocarditis.

Lungs.—The lungs did not give definite signs of pneumonia.

Spleen.—This was enlarged in only one of the five patients.

Paralysis.—Left facial palsy was noted on admission in Case II., and weakness of the left upper and lower extremities. Right facial palsy was noted in the infant, which also had right-sided convulsions toward the close of the disease.

Clinically the cases seemed to divide themselves into three distinct types. In the one class, in which the little patients were not very ill, there was headache, rigidity of the neck, fever, and perhaps at night a little delirium; yet the patients sat up in bed with the ice caps on the head and seemed comfortable in the intervals of head pains. They were rational. We had two such patients. One of these is recorded in the histories; the other has been omitted because we did not observe it during a sufficiently long period, the patient's parents insisting on taking the boy home. He had, however, greatly improved when discharged. In another class are the *foudroyant* cases in which death supervened in a short time, as in the infant. The onset of the coma was early; it continued and deepened until the fatal issue. The third type, the usual form, was that in which the patients came in with a noisy delirium. They had rigidity of the neck, stupor, with periods in which they could be roused and made to answer questions.

Lumbar Puncture.—The series of cases which I report were punctured after the method of Quincke at repeated intervals. The effects of this method of procedure and its ultimate results will be discussed in detail under the heading of treatment. In this place the bacterial, macroscopic and microscopic details are of interest. The five cases were punctured fifteen times, including one dry tap. Fluid varying in quantity from 3 to 50 c.c. was withdrawn at each pucture. In the series, punctures were performed on the fifth, sixth, eighth, ninth, tenth, thirteenth, sixteenth, nineteenth, twenty-fourth, twenty-eighth, thirty-sixth and thirty-seventh day of the disease. It will be seen that fluid was obtained at all periods of the process.

If we refer to the table it will be seen that the fluid withdrawn was turbid on the fifth day of the disease; on the sixth day cloudy; eighth day turbid; tenth day turbid and flaky; thirteenth day turbid, thick and purulent; it continued to be turbid up to the thirty-seventh day of the disease. This shows that there may be marked exudate even at an early period, and later puncture after chills may give a turbid, flaky or even purulent looking fluid. Councilman found that a diminution of turbidity went often hand in hand with absence of micro-organisms. In our cases we found micro-organisms in the turbid, opalescent and less turbid fluids. Micro-organisms grew in all the turbid fluids. In the opalescent or clear fluids micro-organisms were found, by stain, and sometimes were absent by culture. They were absent, by culture, in only one of the turbid cases. On the other hand, they were positive in all the cover-glass spreads except one and in this case culture showed the diplococcus. It seems that the difficulty of culture is rather the obstacle to a positive result, in some cases, rather than the abundance of micro-organisms. In all cases there was found a diplococcus which corresponded to that described by Weichselbaum and Jaeger. It answered the test by the Gram method. It was cultivated pure in all the cases and in all the repeated punctures, except in one. The details of the cultivation given to me by the assistant pathologist, Dr. E. Libman, of the Mt. Sinai Hospital, show that in the case in which the culture was negative, the fluid was turbid in both punctures; in both the diplococcus of Weichselbaum was found in the cover-glass spread. In both, culture failed; one culture being contaminated, the other being negative. In the infant, the secretion from the eyes gave pure cultures of the diplococcus of Weichselbaum. The nasal secretion showed diplococci which decolorized with Gram in two cases.

I here append the pathologist's report: "All of the fluids withdrawn, save one, contained

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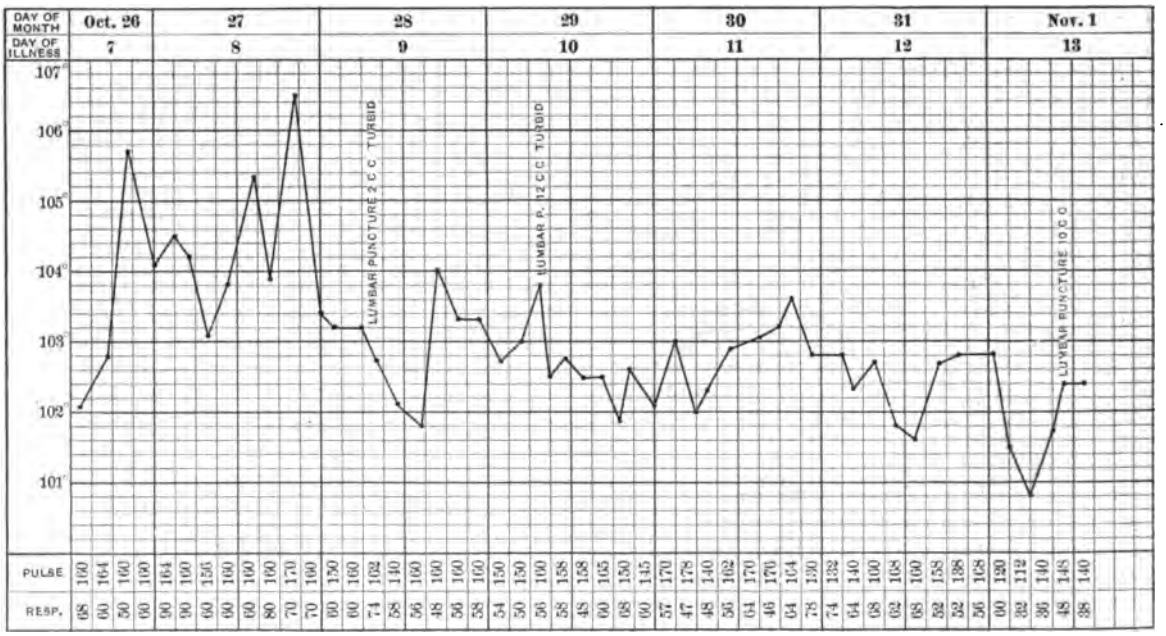
contained less cellular elements than the primary ones. None of the fluids contained sugar (one being too small in bulk to allow of an examination). Much albumin was always present. With nitric acid, the rings usually measured from ⅛ to ⅜ of an inch in height. The secondary fluids contained less albumin, except in Case V. Typical diplococci responding negatively to the Gram procedure were found in all the fluids except in Case IV. and the second fluid from Case III. They were usually intracellular and perinuclear, occasionally extracellular. They were usually more abundant in the more turbid fluids. They were present in spreads from the conjunctival discharge and the nasal secretion of Case V.

found in the culture, there being a pure culture of the *staphylococcus albus*. Cultures from the conjunctival discharge showed numerous colonies of the diplococci.

The diplococci obtained in all the fluids were always the same. They all corresponded closely to Weichselbaum's description. They varied much in size in the same colony, a rather characteristic point. They always failed to stain by Gram. Capsules were never present. The growths were very distinct on agar, but better in serum-agar. The growth is very abundant in serum-glucose-agar made by adding one part of serum (preferably human) to three or four parts of 2-per-cent. glucose-agar.

FIG. 1.



Female infant eight months old, unconscious on admission. Chart shows the effect of lumbar puncture on the pulse and respiration. Fatal case.

For cultural purposes, agar, serum-agar, and for Cases III. and VI. a medium made by adding serum to glucose-agar were used—as a rule a few drops of fluid were dropped into each of two or three tubes. These tubes were tilted at frequent intervals so as to allow the condensation water to flow over the medium (Heubner method). Whenever a positive result was obtained a growth was found in all the tubes. The growth was found within twenty-four hours in all the fluids except in that from Case III., which gave a growth only after three days. As a rule the colonies were quite numerous, the more turbid fluids usually giving better growths. All the growths were pure.

The cultures were positive in all the cases

Inoculations made from the best growths on the various agar media in bouillon, or on gelatin or potatoes, were never followed by any growth. Even if glucose and serum were added to the bouillon, inoculations were unsuccessful. The vitality was usually tested by ascertaining for how long a time a growth could be obtained by inoculating from one agar tube to another daily. In Case V. a growth was obtained for eleven days; in Case IV. one day; in Case I. (first fluid) six days. On serum-agar the organisms could be daily transplanted for a longer time. Exact data were not obtained, except that the organism from Case V. after two months is still actively growing on serum-glucose-agar.

Case I.—Lumbar puncture on admission; 2

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c.c., turbid; eighth day of disease. Tenth day, 12 c.c., turbid and flaky; fluid did not flow. Thirteenth day, 10 c.c., turbid.

Case II.—Lumbar puncture on admission; nineteenth day of disease; 15 c.c., turbid. Twenty-fourth day, 10 c.c., turbid.

Case III.—Lumbar puncture on fifth day of disease; 40 c.c., cloudy, turbid fluid withdrawn. Sixteenth day, 15 c.c., opalescent, less turbid, Twenty-eighth day, 35 c.c., opalescent fluid.

Case IV.—Lumbar puncture sixth day of disease, 50 c.c., cloudy serum withdrawn. Ninth day, 3 c.c. withdrawn. Nineteenth day. 10 c.c., turbid, higher up. Twenty-fourth day, 30 c.c., turbid fluid. Thirty-sixth day, 16 c.c., turbid fluid.

Case V.—Lumbar puncture on ninth day of disease; 25 c.c., great pressure, turbid. Thirty-seventh day, 5 c.c., slightly turbid. Spread from nose, diplococci decolorized with Gram.

Treatment.—The treatment of cerebrospinal meningitis has hitherto been a palliative one. Recognizing the fact that we have to deal with an acute infectious disease, the measures in vogue hitherto and to-day are directed toward alleviating the symptoms and supporting the strength of the patient until the time has arrived when the disease itself has run its course. The patient recovers or succumbs. Even to-day we have no specific remedy; we know that the prognosis in the form of disease which is the theme of this paper is much better than that of the pneumococcus form. We can do much for the patients. The general treatment is first directed toward eliminating the poison and, if possible, limiting the exudate. For this in all cases we give iodide of potassium in very liberal doses. We do this on the same lines that we would in a chest effusion or a subacute exudative process in the lung. We treat the fever with sponging. In two of the cases of this series the patients found great comfort in baths at 105° F. Especially was the benefit noted when chills and pains in the extremities were harassing symptoms. Netter mentioned this method of treating these cases in the recent International Medical Congress. Aufrecht has advocated warm baths. There are other minor methods which have been pursued in these cases; they include the ice helmet for the headaches; hypnotics for the delirium and the mercurial cathartics at regular intervals to counteract the constipation. In all this there is nothing but what has been done all along for these cases.

In this series of cases, however, we have pursued a method of treatment, that of repeated lumbar puncture which is directed more especially toward relieving symptoms due to the accumulation of exudate in the subarachnoid space and about the brain and cord. We certainly can justly trace symptoms, such as persistent headache, somnolence, coma, delirium, convulsions, to accumulation of fluid in and about the brain and cord, and to a certain amount of toxemia resulting from the absorption of inflammatory products. Repeated chills also may fairly be traced to purulent accumulation and renewed absorption of infectious material from the exudate. The mechanical relief of conditions of increasing pressure and diminution of gross amount of infectious material is certainly indicated in cerebrospinal meningitis of the variety described in this paper just as it would be in a pleurisy with effusion or a pericarditis, should symptoms of pressure arise. This was done systematically on indications in all the patients of this paper.

The lumbar puncture was carried out with all the details of antisepsis. Most of the patients were punctured three times in the course of the disease and one more frequently. There was no routine in the procedure, but each case was studied and when symptoms of pressure or accumulation of exudate appeared the puncture was made. The indications were continuous headache, accompanied by periods of somnolence and delirium, repeated chills with a sharp rise of temperature, an increase in the rigidity or opisthotonus, increasing or continued coma. If the immediate effects of puncture were favorable, the procedure was repeated if there was an exacerbation of the symptoms. If continued improvement followed puncture, the patient was no longer disturbed. In this conservative way, no ill effects of this method of treatment were observed.

In one patient the effects of puncture were remarkable; the patient upon exacerbation of symptoms requested that the procedure be repeated. The puncture showed that in some cases the fluid was under great tension and would flow from the cannula with a spurt so that quite a quantity could be withdrawn before the fluid ceased to flow freely.

In one case the primary lumbar puncture had no perceptible effect, the somnolence increased and the second lumbar puncture (15 c.c.) had only a very temporary effect, a dry tap followed; after a few days a fourth puncture, in which 10 c.c. of turbid fluid were withdrawn was followed by a gradual improvement in symptoms, after which the patient was not disturbed.

A second patient was very delirious before the first puncture; after puncture and withdrawal of 50 c.c. of turbid fluid, under great tension, the patient was quieter, slept well and became more rational; she continued to do moderately well until eleven days after, when she became more noisy, had severe headache and repeated chills. She was cyanosed; she was again punctured and 10 c.c. of turbid fluid was withdrawn. Her condition continued unsatisfactory; repeated chills supervened and she was again punctured and 30 c.c. of turbid fluid under great tension withdrawn. Improvement set in the next day the headache diminished and the child could move her head more freely;

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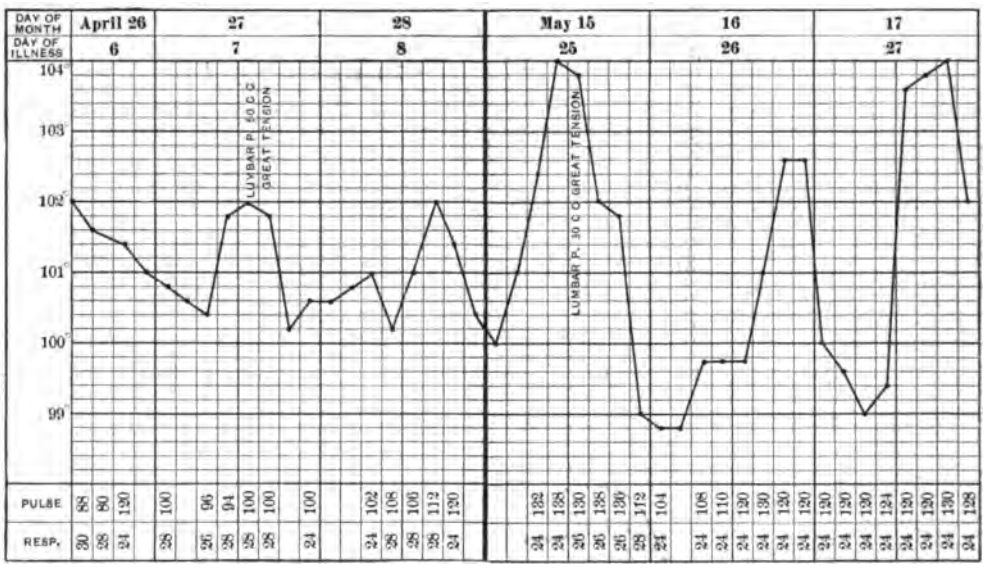
some headache and pain in the back; she slept better at night. Nine days after this, pain in the head reappearing, with occasional noisy intervals and temperature persisting, a puncture was made and 16 c.c. of turbid fluid withdrawn. The patient immediately became brighter and continued to improve. On sudden rise of temperature fifteen days after, with accessions of headache, a tap was again attempted but nothing obtained.

Another case was that of a boy four and a half years of age in which at first there was a question as to the possibility of traumatic meningitis. After the first primary puncture of 25 c.c. of turbid fluid withdrawn under great pressure, the meningococcus being found, the case was diagnosed as cerebrospinal meningitis of the epidemic type. After this the boy, who had been stupid and irritable, became more rational, quieter and said he felt better. His movements, which had been involuntary, were passed voluntarily. Thirty days after admission, the temperature, headache and rigidity being present and there being complaint of chilly sensations, 5 c.c. of a turbid fluid were withdrawn. The temperature continued lower, symptoms improved gradually until complete recovery. This patient at no time after the first puncture presented anything but the milder type of disease. He would sit up at times and for days be quite rational. He complained principally of headache and pain in the neck. In another patient the principal symptoms were violent headache and pain in the back of the head and neck. There was delirium at intervals. Lumbar puncture relieved the headache and pain palpably. The infant, thus. Respiration was not markedly affected if at all. After subsequent puncture the pulse fell, but to a rate at which it had been recorded a day before the puncture. In another, at puncture, the pulse was 92, respiration 24. After puncture, respiration was 24, pulse 88 to 90. We cannot say more than that after repeated punctures in this case, the pulse fell in rate, though continuing very irregular. The fall extended over such a long period that the diminution cannot but be attributed to the subsidence of the process rather than to the immediate effect of puncture. In another case the pulse was 96 to 112 before and 90 immediately after puncture and in a few hours 100, ranging irregularly between 92 and 112. Respiration was 37 to 40 before, and 28 and 26 immediately after puncture, in six hours regaining a frequency of 30, dropping to 24 to 26.

Effects of Lumbar Puncture on the Pulse and Respirations.—If we refer to our records of the five cases, we find strangely enough that lumbar puncture, even when considerable amounts of fluid are withdrawn, has no marked effect on the respiration and pulse. In that of the comatose infant, although 12 c.c. at one time and 20 c.c. at another were withdrawn, the pulse and respiration continued in much the same irregular variations as before puncture. In another case the pulse dropped from 130, before, to 104 after puncture. It maintained this rate for fully 12 hours when it steadily rose to 120, 124 and 130 at intervals and continued

FIG. 2.



Female child eight years of age. Temperatures at two extremes of the disease. April 26–28, May 15–17. Chart shows the effect o lumbar puncture on the pulse and respirations. Recovery.

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Another puncture shows respiration 28 and pulse 100 before and 26 to 104 after puncture.

In another case of lumbar puncture, the respiration and pulse were as follows:

	Before.		After.	
	Respiration.	Pulse.	Respiration.	Pulse.
1.	28	84	28	100
	28	80	28	100
	28	92	26	100
2.	24	104	24	96
	24	96	24	98
	24	96	24	116
	24	108		
3.	24	102	24	104
	24	108	24	104
	24	112	24	100

It can only be said that the pulse is in some cases temporarily diminished in frequency, in others not at all, and that the respiration continues much the same. This is important because in those cases of cerebrospinal meningitis in which just before the fatal issue respiration ceases, whereas the heart continues its action, lumbar puncture will not aid us in restoring the respiratory function. If we look over the results obtained by repeated lumbar puncture, we can justly say that they have relieved symptoms. The relief seems to be more in the direction of a diminution of pain and a reduction of those symptoms which may fairly be traced to toxemia and mechanical pressure. At the same time, we cannot but feel that the withdrawal of an appreciable amount of any fluid from the spinal canal which contains bacteria and the toxic products of inflammation must be beneficial in the long run on the course of the disease. It is premature as yet to say to what extent the prognosis is favorably influenced by this procedure. It is, however, a method which it is certain will come more and more into general vogue, and take its place with aspiration of the pleural cavity as a curative method.

Case I.—Female, eight years, seven months. England. Admitted April 26, 1899. No tuberculous history. Other members of the family in good health. No other history as to diseases of childhood; has never had a cough but always delicate. Five days before admission was pushed while at play and struck the back of her head against a railing. There was no cut, but ever since she has complained of pain in the head. She has been restless at night crying out with pain. She has vomited all her food. Bowels constipated. Passed usual amount of urine. Has had no pain or discharge from the ears.

On admission it was found that her general condition was poor; tongue moist and coated; delirious; picks at her nose; pupils are equal in size and react to light; no paralysis; knee reflex exaggerated; tache cérébrale; ankle clonus of right ankle; rigidity of the neck; also tenderness; ptosis of the left eye; herpes of the upper lip; marked Kernig; lungs and heart normal; sounds forcible; liver and spleen negative; abdomen rigid; urine acid 1026; no albumin; no sugar. Expert examination showed double optic neuritis. Ears normal.

April 27th, lumbar puncture, 50 c.c. of a cloudy serum withdrawn under great tension. Fluid showed leucocytes and diplococci, intracellularis by stain and culture. After puncture patient was quieter and passed good night, being more rational. April 28th, second puncture, only 3 c.c. of fluid withdrawn; blood-count shows 15,600 leucocytes to cubic centimeter. May 5th, complains pain in left ear. May 8th, general condition not good; pulse intermittent; pain in right shoulder. May 9th, general condition worse; pain in right shoulder, no impairment of motion; hyperesthesia of skin; complains of severe headache and is very noisy at times. May 10th, condition bad; had repeated rigors, cold and cyanosed. Lumbar puncture, 10 c.c. of turbid fluid withdrawn higher up at a new site, the old puncture site being a dry tap. May 11th, rigor lasting five minutes followed by a temperature of 104° F. May 15th, repeated chilly sensations. Lumbar puncture, 30 c.c. of a turbid fluid removed. May 17th, condition improving; moves head without pain, but still has headache and pain in back of neck; is rational and delirious at intervals; sleeps well at night. May 19th, report of culture of above fluid showed diplococcus intracellularis; still has chilly sensations. May 23d, has intervals of quiet alternating with delirium; is especially noisy toward evening; cries out with pain. May 27th, lumbar puncture, 16 c.c. of turbid serum withdrawn. May 28th, general condition improved; is brighter. June 2d, blood-count, red 4,481,250, white 8,200. June 12th, lumbar puncture, dry tap. July 9th, expert examination of eyes by Dr. May; fundus normal, except that the margin of the discs are blurred, especially on the right side; no exudation; vessels slightly tortuous. July 23d, out of bed one hour. Aug. 16th, discharged cured.

Case II.—Female, nine years old, admitted April 29, 1900. Has had measles; no scarlet fever or pertussis or any pulmonary trouble; no history of ear disease. A few days before admission she fell, but had no bleeding; sixteen days ago complained of headache, vomiting; had chill followed by fever; chill recurred daily for ten days; no chills during past six days; headache is frontal and occipital; neck was painful and rigid; has had no cough; no eruption; has been rational. On admission the patient appeared dull and apathetic; slight left facial palsy; tongue deviates to

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clonus; pupils react slowly; tache cérébrale. Lungs, equivocal signs. Heart, irregular in action; aortic regular murmur. Spleen, large.

April 30th, lumbar puncture for diagnosis. Discharge from ears. May 1st, more somnolent; Kernig more marked; abdomen retracted; delirious at night. May 2d, lumbar puncture, 15 c.c. withdrawn. May 7th, lumbar puncture, 10 c.c. of turbid fluid withdrawn. May 8th, by expert examination ischemic arteries of disc were found; no neuritis. June 10th, sitting up. July 24th, discharged cured.

Case III.—Male four and a half years old, admitted May 3, 1900. Has had measles and pertussis. Eight days before admission fell down striking the head behind the left ear; was stupid for two hours; no escape of blood from the ear, nose or mouth; no convulsions nor palsy nor vomiting; went to school and played for five days after, during which time he complained of pain at the site of injury; day before admission vomited; convulsions of the muscles on both sides of the body set in; there was fever and stupor, but no rigidity of the neck; some difficulty in swallowing.

On admission there was stupor and restlessness if disturbed; tenderness of the back of neck, but no rigidity of the neck. Pulse irregular. Organs negative; urine negative. Reflexes at knee absent; Kernig present; abscess on plantar surface of left foot. Expert examination of fundus of eye shows some exudation of discs, left more than right.

Lumbar puncture, 25 c.c. of a turbid fluid withdrawn under great pressure; diplococcus intracellularis by stain, abscess of foot contained diplococci and streptococci in short chains. After puncture child became quieter, said he felt better, asked for bedpan, whereas before this he had passed his movements involuntarily. May 7th, cover-glass spread from nasal secretion showed diplococci; some staining, others decolorizing with Gram. General condition good; has bilateral clonus; exaggerated knee reflex. May 13th, has had occasional headaches, but is improving; vomits at times. May 15th, scarlatinous erythema, twice in past three days. May 17th, repeated chilly sensations. May 18th, no Kernig. May 28th, feels chilly; slightly cyanosed; slight clonus. June 1st, lumbar puncture, 5 c.c. slightly turbid fluid withdrawn; spread shows diplococcus intracellularis. June 18th, systolic aortic murmur which is heard in vessels of neck. July 9th, examination of eyes shows descending neuritis of both eyes, with exudation in right. July 26th, discharged cured.

Case IV.—Male twelve years old, admitted August 21, 1900. Father has phthisis; mother is in good health. Boy has had measles. Three days ago complained of headache and vomited persistently. Fever followed and for two days he vomited his food. He was delirious, apamission.

On admission he was well nourished; delirious; tongue moist and coated; herpes labialis; marked rigidity of the neck with pain on motion; slight conjunctivitis; patellar reflexes absent; marked Kernig; tache cérébrale. Lungs, equivocal signs. Heart, apex forcible; pulmonary second sound accentuated. Spleen, not large. Abdomen, retracted.

August 22d, lumbar puncture, 40 c.c. cloudy fluid withdrawn. Two hours after puncture headache is less; pus cells in fluid, stain and culture, diplococcus intracellularis. August 23d, rigidity still present; knee reflexes absent; headache absent; erythema face and neck, chest and abdomen. August 24th, Kernig still present. August 25th, knee jerks present; rigidity of neck diminished; headache at night. August 28th, herpes labialis; optic discs show hyperemia. September 2d, Kernig present. September 3d, lumbar puncture, 15 c.c. fluid withdrawn, less turbid than previous puncture. Kernig less marked; left eye shows beginning neuritis. September 15th, lumbar puncture, 35 c.c. opalescent fluid withdrawn; pains in neck and back; tremor of face, tongue and hands; Kernig increased; rigidity of neck. October 1st, has had occasional headaches, especially in the afternoon; these headaches varied in severity; Kernig gone. October 19th, discharged cured.

Case V.—Female infant, eight months old, admitted October 26th. Family history negative. Six days ago mother noticed infant's left eye was red and had a purulent discharge; three days after noticed that the infant had fever and a discharge from the nose; two days ago had a convulsion which was not repeated; has since been in a semicomatose state; no cough; no vomiting.

On admission, general condition poor; infant is cyanosed; eyes are rotated upward; pupils react to light; there is a purulent discharge from both eyes; no nasal discharge; rigidity of neck. Lungs, equivocal. Heart, liver and spleen negative; abdomen distended.

October 28th, right-sided convulsions lasting fully an hour; rigidity of neck; reflexes exaggerated. Lumbar puncture, 2 c.c. turbid fluid withdrawn which showed diplococcus intracellularis in culture and spread. Pus from eyes showed diplococcus intracellularis in spread and by culture diplococcus decolorizing with Gram pure. October 29th, lumbar puncture, 12 c.c. viscid, flaky fluid aspirated, also cultivated pure found same diplococcus corresponding as above. Infant is comatose. Rigidity of neck; marked Kernig. Reflexes increased. October 31st, both knee-joints somewhat swollen and give a dry rubbing fremitus on manipulation. Pupils moderately dilated do not react. Diarrhea with green stools; discharging pus from eyes and nose. November

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1st, convulsions repeated, involving whole right side; following this infant had right facial palsy; eyes rolled upward; slight opisthotonus. Lumbar puncture, 10 c.c. thick cloudy fluid; culture as above. November 2d, convulsions repeated. Infant became cyanotic, stopped breathing, but the heart's action continued beating 150 per minute; fairly regular; artificial respiration performed; breathing began again; died. Respirations ceased before heart.

66 East 58th Street.

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DRAINAGE IN ABDOMINAL SURGERY.[1]

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MANY of the problems involved in abdominal surgery have been settled, not always in the same way, it is true, but by a general consensus of opinion which is the outcome of our gradually accumulated knowledge. Many of the procedures practised in abdominal surgery have been agreed on. For instance, every surgeon agrees and insists that his hands, instruments, the field of operation, etc., must be clean—surgically clean; and it doesn't matter whether a man believes in "bugs" or not, he says, "You must be clean;" nor does it matter whether he scrubs his hands until the superficial epithelium slips, dyes them and bleaches them in strong chemicals, or merely scrubs his hands and rinses them in alcohol, still he emphasizes the fact that one must be clean. Not only is cleanliness next to godliness in surgery, but it is godliness itself.

While some surgeons make a short abdominal incision and some make a long incision, all agree that the incision should be sufficiently ample to allow the operator to work easily and expeditiously. While some surgeons employ silk ligatures and sutures within the abdomen and others use catgut; some steam their silk fractionally, others boil it once only, still others do both; some sterilize their catgut by dry heat, others cumolize it; yet all maintain that whatever material is employed and by whatever process it is prepared, it must be sterile, non-irritating, easily absorbed, and of the smallest size commensurate with safety.

We all agree that loss of blood is the chief factor in the production of surgical shock. I dare not include in this category of agreements the various methods of closing the abdominal incision, for if the gentlemen who practise the different methods of closing the abdomen were to suddenly agree, we might be forced to draw the same inference that the new waiter did at the medical banquet, where, after several courses had been served, the new waiter said to the old waiter, "I believe these doctors are getting drunk." The old waiter replied, "I don't see any signs of it." The new waiter replied, "I don't either except that they are beginning to agree with each other."

Touching many other points there is also a general consensus of opinion. Why can there not be, then, some well-defined principles in the matter of abdominal drainage which can be settled. To this end I have invited the attention of this distinguished body. Ever since Robert Houston in 1701 incised the abdomen of Margaret Miller and left a "small tent in the lower angle of the wound," drainage has been considered a question of prime importance in abdominal surgery. Indeed, incision and drainage were about all the surgeons dared to do until the immortal McDowell deliberately removed a tumor from Mrs. Crawford in 1809.

That drainage is essential and desirable in some cases is evident, that it is unnecessary and undesirable in many cases is equally clear.

The Objects of Drainage.—The chief purposes for which drainage is employed are as follows: (1) To drain away existing septic material. (2) To afford an exit for the sepsis when the operator fears he has possibly infected his patient. (3) To provoke adhesions and thereby wall off weak spots from the remainder of the abdominal contents. (4) To keep the peritoneal cavity free of blood and other fluids. (5) To allow of a more certain knowledge of the conditions present in the abdomen. (6) Gauze drains are sometimes employed as tampons to control hemorrhage.

To Drain away Septic Material.—There can be no question of the propriety of drainage in those cases in which sepsis is already present. Its value has been emphasized many times in cases of suppurating appendicitis which may be taken as typical of septic cases. But it is to be noted, when we come to apply this rule of action to other cases presumed to be already septic, that the surgeon, who does not follow a routine, formerly drained many cases that he now feels safe in closing without drainage. By way of illustration, take the following recent case occurring in the hands of the writer:

Mrs. S., a very small woman, aged twenty-

[1] Read before the Southern Surgical and Gynecological Association, Atlanta, Ga., November 13, 1900.

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sized child. Conditions were only fair, pulse was 120, temperature 101° F. She was emaciated and the abdomen was greatly distended with an ovarian cyst. A few days' delay was advised. After ten days abdominal distention was increasing, respiration was beginning to be embarrassed. Contrary to the writer's usual custom he tapped the abdomen, drawing off thirty pints of heavy gelatinous fluid. This relieved the dyspnea but the evidences of sepsis continued. After a few days the patient having gained a little strength, she was taken to more comfortable quarters and the tumor removed. The tumor when removed weighed thirty-three pounds, which added to the thirty pounds removed at the tapping a few days previously made sixty-three pounds. The tumor and pregnant uterus probably weighed as much as the woman. The cyst was multiloccular and contained many different kinds of fluid. Adhesions were numerous and evidences of a widespread peritonitis were present. Because of the bad condition of the cyst-wall a quantity of the fluid escaped into the abdominal cavity. The abdomen was thoroughly washed out and filled with the salt solution and the incision closed without drainage. The recovery was perfect. Formerly it would have been considered necessary to drain this case because of the sepsis and peritonitis. Nor is it necessary to always drain after removal of pus tubes even when the sac ruptures and the parts are bathed in pus, since it is well known that pus is frequently free from pathogenic germs. This is especially true in old abscesses. Even the presence of some forms of pathogenic germs, noticeably, the gonococci, is not an indication for drainage. The principle of drainage in septic cases is decidedly applicable when we invade the peritoneum through the vagina. Indeed, in these cases, as in suppurating appendicitis, the chief object is to drain the pus foci and serum distended tissues. Here we have ideal drainage, for gravity aids capillarity, and it is marvelous how quickly these patients often recover.

When the Operator Infects His Patient.—After the earlier operators lost their dread of opening the peritoneum, surgeons gradually learned that mere opening of this cavity was a perfectly safe procedure, provided the operator's hands and implements were sterile. In this day it is almost inexcusable for a surgeon to infect his patient, yet almost all of us say, "If we handle the parts a great deal it is better to drain"; unmindful of the fact that we are virtually admitting that we have probably infected our patient. With instruments, sutures and sponges thoroughly sterile, with our hands conscientiously scrubbed, washed in chemicals, and with the use of rubber gloves, However, the unexpected occasionally happens. Last month while the writer was doing a hysterectomy in a private house in a distant city, the patient suddenly stopped breathing, and she looked as if all the blood in her body had suddenly sidetracked itself into the capillaries and was going to stay there. It required prolonged efforts at artificial respiration, with the patient in the inverted position, to establish the respiratory function. But for the intelligent, faithful efforts of professional friends the patient would have died. The writer was kept busy trying to protect the open abdomen. Chloroform was the anesthetic being used. After this anesthetic episode everything went wrong, as they usually do when one thing gets awry. The outcome was that when the operation was finished we did not know whether the patient was infected or not. For fear that she was drainage was employed. The recovery was stormy, but satisfactory in the end.

To Promote Adhesions and Wall off Weak Spots.—The well-known property of the peritoneum to throw plastic lymph around any foreign body is often utilized when, after injuries to the bowel, ureter of other viscus, there is fear of leaking and consequent contamination. Here the gauze drain serves the dual purpose of isolating the vulnerable part and of drainage.

To Keep the Peritoneal Cavity Free of Blood and Other Fluids.—Just here is a point of departure. One set of observers cites the fact that blood or serum or any innocuous fluid when retained in the abdominal cavity makes an excellent culture medium and claims that the way to prevent infection is to keep the peritoneal cavity free of fluids. Even when hemorrhage has been controlled, advocates of this plan expect, in most cases, especially where many adhesions have been broken up, that there will be enough oozing to require drainage. They usually use a glass drain and empty it frequently with a long-nozzle syringe. Other observers take the position that the peritoneum is amply able to take care of any reasonably amount of oozing blood or, indeed, a large amount of other fluid, even when there is mild infection present, and they encourage this absorptive function of the peritoneum by leaving in its cavity a liberal quantity of normal salt solution, which is not only itself easily absorbed, but dilutes the oozing blood and thus renders it more readily absorbed. Those who follow this teaching close the abdomen without drainage no matter how many adhesions have been broken up or how much fluid is left in the peritoneal cavity.

To Allow of More Certain Knowledge of the Conditions Present in the Abdomen.—This argument is used particularly in favor of the drain-

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that hemorrhage occurring within a few hours after the operation may be detected by means of the drainage-tube and syringe. The same is true to a less degree of the gauze drain.

The objection to this argument is that in the vast majority of cases it is unnecessary to inspect the abdominal cavity to see if there is hemorrhage. The use of suture material that will not readily break or untie, with careful inspection of every possible bleeding-point, ought to insure against hemorrhage; certainly this is true in all cases in which the tissues are not softened by sepsis or malignancy.

Gauze Tampons.—There is a variety of circumstances under which it is expedient to pack a bleeding-point with gauze tampons to control the hemorrhage. In these cases the gauze, of course, also acts incidentally as a drain.

Histology and Physiology.—Many of the reasons advanced in favor of drainage were promulgated before the histology and physiology of the peritoneum were understood. Wagner in 1877 was the first to demonstrate the wonderful ability of the peritoneum to absorb fluids, even as much as the entire weight of the animal being absorbed in twenty-four hours. Muscatello in 1895 proved that, while there were no stomata between the peritoneal endothelium cells, fluids and minute foreign bodies passed between the endothelium of the diaphragmatic peritoneum by a retraction of the cell-protoplasm and were then taken up by the open spaces, found only in this portion of the peritoneum, and passed on into the lymp-circulation. This observer demonstrated a normal intraperitoneal current capable of carrying fluids and small bodies to the diaphragm, and this, too, irrespective of position although gravity has a marked influence on the current. It also has been shown that the leucocyte is the principal bearer of foreign particles along the highway just described.

Another fact pertinent to the question is that the leucocytes and other factors producing this intraperitoneal current bear off pathogenic bacteria along this wonderful highway as readily as they carry innoçuous substances, provided the enemy is not too numerous or too virulent. These facts open up to view the surprising capabilities of this highly vitalized membrane, and the abdominal surgeon should doff his hat to his ablest ally—the peritoneum.

Objections to Drainage.—Excluding cases of acute suppurative infection, such as appendicitis, pelvic abscess, that can be reached through the vagina, and wide-spread general peritonitis, drainage is objectionable for many reasons. Among them are the following: (1) It is deceptive. The writer has tried all kinds of drainage and found them unsatisfactory in fact, both gauze and the glass tube constitute an additional source of infection. (2) Cases not drained do better. The observation of any considerable number of cases will demonstrate this. A smaller percentage of the patients become infected; they suffer less nausea, less pain, require less morphine, have less tympanites; the bowels are more easily moved; the mortality is lower, and, in a word, they do better than cases that are drained. (3) Drainage is neither scientific nor workmanlike. I say this with an apology and with all due defference to those distinguished gentlemen present who drain most of their cases.

Take a case of large myoma or pus tubes with adhesions. To drain such a case is to say in substance to the patient, "We cannot open your abdomen, remove the abnormal growth, separate the unnatural adhesions, and close your abdomen without leaving your peritoneum in a condition that requires an open door." The "open-door" policy is all right for China, but not for the peritoneum. The presence of a drain is a tacit admission that we have left something undone that we ought to have done, or that we have done something that we ought not. Even in a case of suppurative appendicitis or pelvic abscess, if we could enucleate the sac in its entirety and without contaminating the surrounding tissues, just as we do a simple pus tube, there would be no need of drainage; but since this cannot be done, we must content ourselves with less complete work and leave Nature to finish the job. Joseph Price, who is known as an advocate of drainage in certain cases, is quoted as saying, "Drainage is an evidence of incomplete work." In a word, when we drain we do so because we cannot do better.

VERTIGO; A STOMACH LESION.[1]

BY MARTIN A. H. THELBERG, M.D.,

OF NEW YORK.

It may seem preposterous for one, who can lay no claim as a neurolgist, to present a paper on a subject, gastric vertigo, about which there exists so many differences of opinion. As, however, one of the aims of our Association is to encourage discussion relative to the various subjects, that come to our notice, and as I have seen numerous cases of vertigo in which very painstaking diagnoses and subsequent successful treatment have been sufficient to dispel any doubt as to the etiology, I take pleasure in offering this paper in the hope by bringing forth the theories, experiences and criticisms of my confrères.

[1] Read before the Alumni Association of the City Hospital, November 14, 1900.

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word *-vertere*) signifies, but also the various symptoms, familiar to us all since childhood, coincident with turning. The vertigo proper may indeed be of many forms and varying in degree. It may be *scotodynia*, where the sight is obscured and the patient falls from a complete loss of equilibrium and usually also of consciousness, or *gyrosa*, when either the patient, or things about him seem to revolve and where the sense of equilibrium is more or less affected. In other instances the floor, or pavement, seems to rise, or sink, or a giddy, dizzy "lightheadedness" is experienced with darkness and occasional sparks, or flashes of light before the eyes, causing the patient to grasp for support for fear of falling. Usually this sensation is of short duration, but at other times it is either frequently recurring, or else more or less persistent, so that, even while lying in bed, a sensation of sinking, revolving or rocking is experienced, which is increased by the least movement of the head. These patients in my experience, at least, have proven the most intractable to treatment; as the psychical state, with fear of renewed attacks, is far worse than the vertigo itself and is one of the most potent etiological factors for renewed attacks. Another familiar example of the influence of fear upon the equilibrium is the dizziness, or actual vertigo of some people on looking down from some high place, as a tower or cliff.

In almost every instance of vertigo we will observe more or less pronounced nausea, or often even actual emesis. The nausea, if at all persistent, is indeed a most distressing symptom, especially as it is usually associated with cold sweats, fluttering of the heart, tinnitus, pyrosis, and worst of all, fear of approaching death from apoplexy, or cardiac disease. The heart indeed almost always acts very badly in these cases—it is weak, intermittent, at times to such an extreme that one cannot but share to some degree the patient's alarm. The patient feels confident that the end has come, often presses his hand over the precordia, proclaiming that the heart has stopped or ruptured, and afterward describes the sensation as one of extreme pain and compression of the heart. These symptoms are, however, relieved by emesis and eructation of gas and the patient, who has been cold and livid, breaks into a profuse perspiration. Usually more or less prostration and irregularity of heart action persist, according to the severity and number of attacks.

In glancing over the literature on the subject, one cannot help but feel perplexed at the differences of opinion regarding the etiology of what Trousseau so vividly describes in the *Clinique Médicale* as "vertigo e stomacho læso," and known amongst the Germans as "Magenschwindel." Before citing different lows: "Vertigo in a person without any obtainable evidence of disease of the apparatus of equilibrium, or audition, or vision, or the brain, especially when the attack is traceable or subsequent to some dietetic indiscretion, or gastro-intestinal disorder and when curable by appropriate regimen and treatment directed toward the correction of such, digestive disturbances."

Gowers says, in his Diseases of the Nervous System, "I do not think that it is quite certain that there is such a thing as definite vertigo of purely gastric origin. Thirty years ago 80 per cent. of cases of giddiness were supposed to be due solely to the stomach. But we now know that in 90 per cent. of the cases a morbid state of the labyrinth is the real cause of the vertigo. It is possible, that in the small remainder, of apparently stomach giddiness, there is some other influence that is the real cause, *e.g.*, a morbid state of the semicircular canals exists which, causing no auditory symptoms, is not to be detected save by its effects."

S. Weir Mitchell, in Pepper's System of Medicine, says that "Trousseau certainly misled the profession as to the frequency of this (the gastric) form, but he did little more than represent the popular medical views, and we may now feel sure that a good many so-called gastric vertigoes are due to lithemia or to trouble of eye or ear. As a rule, such an attack need cause no uneasiness as to fatal result, but, unless the case be handled with skill, it is apt to repeat itself, until what I have called the *status vertiginosus* is created.

Ramskill, in Reynolds-Hartshorne's System of Medicine, says: "The most common and most tractable eccentric variety (of vertigo) arises from disorder of stomach, or of functional derangement of the liver and upper part of the alimentary canal. From its violence it suggests the idea of imminent danger. Chronic stomachal vertigo is of very common occurrence, and one often supposed to indicate the commencement of congestion, of organic disease of the brain, or of threatened apoplexy; and the treatment which has been adopted under such erroneous diagnosis has only served to render the vertigo permanent." Dana, in the Text-book of Nervous Diseases, says: "Stomachal vertigo is the name given to a very severe form of reflex vertigo. It occurs generally in persons whose stomachs are overloaded and whose digestion is paralyzed by its load. It is accompanied by loss of consciousness." Collins, in his work on Treatment of Nervous Diseases, says: "Such vertigo is much less common than is usually supposed." Flint, in his Practice of Medicine, says: "In a certain proportion of cases, the attacks appear to be incident to dyspepsia. This causation, however, is certainly not as

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constant as it is regarded by Trousseau." Loomis, in Practical Medicine, says: "Gastric vertigo is the most common and is an almost invariable attendant on dyspepsia. It is often so severe and sudden in its onset that the patient thinks he is soon to have a stroke of paralysis. The mental state is often deplorable and true melancholia may ensue." Osler, in Practice of Medicine, says: "This variety of vertigo (gastric) is much less common than Trousseau's description would lead us to believe." Hemmeter, in Diseases of the Stomach, 1900, says: "This affection occurs in neuropathic patients with hyperacidity and is associated more often with gastric neurosis than others. It is a more frequent complication of hyperchylia than is generally known. Treatment of the fundamental gastric disease removes the vertigo, as a rule."

Einhorn, in Diseases of the Intestine, 1900, says: "Leube describes several cases of intestinal vertigo, due to pressure existing in the lower end of the bowel and caused by irritation by fecal matter or a large amount of gas, or even the examining finger, from which he reasons that the vertigo is reflexly from pressure upon the hemorrhoidal plexus of the sympathetic," and in his Diseases of the Stomach, says: "In some instances of chronic gastric catarrh there appears a dizzy feeling which is occasionally so severe that patient cannot occupy a standing position, but has to sit down or lie down." Ewald, in Diseases of the Stomach, says: "Trousseau deserves the credit of having first directed attention to the relation of those attacks of vertigo with chronic catarrhal gastritis."

Leube, in his Ueber den Magenschwindel, Ziemssen's Handbuch d. spec. Path. and Therap., Vol. II., mentions that gastric vertigo may occur in some persons after the ingestion of certain foods.

As can be seen from these citations we have, indeed, some of our best observers at variance, and we must consequently rely exclusively upon our own conclusions, which, after all, is the only satisfactory way when we conscientiously study our cases and employ due logic in our diagnoses. Bearing in mind that vertigo undoubtedly can result from disease of the semicircular canals, cerebellum and nerves of Cyon, as well as from errors of refraction and the ocular muscles, and that, furthermore, polypi or disease of the external or middle ear or of the Eustachian tubes or the larynx may be the etiological factors as well as tumor or disease of the brain, epilepsy, neurasthenia or hysteria, we ought certainly to be able to diagnose the case by due care and thoroughness, without fear of contradiction.

In the diagnosis of these cases it is naturally of the utmost importance to first and foremost obtain as complete a history as possible, including previous attacks, possible, ascribable, immediate cause, existence of disease of ear, eye, nose or throat, brain, heart or digestive tract. By following this with otological examination and tuning-fork test, Menière's disease is practically excluded. Simple tests as to the condition of the ocular muscles, accommodation and vision, followed by Pulitzer's test, rhinological and throat examination, neurological examination as to knee-jerk, ataxic symptoms, sensation and motion, will by exclusion practically leave digestive disturbances as the primary cause. In confirmation of this the stomach will in the majority of cases be found considerably distended, tympanites, pyrosis, colic and distress after eating will usually be complained of, as well as constipation or looseness of the bowels. The especial attack will generally be ascribed to something eaten. One of my patients had a very severe attack after eating broiled lobster, another after a table d'hote dinner, still another had vertigo of the worst kind after drinking a glassful of claret or sauterne, although other wines caused no distress. Ice-cream, liberal indulgence in coffee and cakes (in German fashion), plum-pudding, etc., may be enumerated as other causes.

The diagnoses given by previous medical attendants have in the writer's cases varied between apoplexy and cardiac disease. In not less than two cases in my immediate neighborhood were the patients and their families living in constant dread of sudden death, as other physicians had pronounced previous attacks as slight strokes.

In regard to the mechanism of *vertigo e stomacho* the writer is of the opinion that this symptom is brought about by either, or all of three causes, to wit: (1) Reflexly through direct irritation of the gastric branches of the pneumogastric and thence by the lower cervical ganglion to the vasomotor nerves of the vertebral artery, which supplies the internal ear. (2) By toxemia from amulon, and other ptomaines, nicotine, alcohol, reabsorption of bile, the toxins of the infectious diseases, etc., etc. (3) By direct pressure upon the heart through distention of the stomach and intestines by gases, resulting principally from so-called amylaceous indigestion and hyperchylis.

Although it has not been the writer's good fortune to meet with a single case of purely Menière's disease, still I do not for a moment doubt or dispute that disease of the semicircular canals, nerve of Cyon, or the apparatus of equilibrium generally, will cause vertigo. The writer's contention is only that actual disease of this kind is of far less frequency than irritation of the centers controlling equilibration, and, from the successful treatment of over 20 well-marked cases of this kind (besides several less typical ones), I feel convinced that gastro-intestinal disorders supply the irritant in the majority of instances by either or all of the afore-named three ways.

The treatment that in the writer's expe-

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rience has proven curative in the most alarming, as well as recurring cases, is the correction of the gastro-intestinal disorder. This has in most of my cases been accomplished by the administration of a glass or two of hot water half an hour before meals, with some sodium bicarbonate before breakfast, and from three to four grains of diastase with each meal, preferably in combination with $^1/_{20}$ to $^1/_{10}$ gr. strychnine and in some instances a pepsin ferment. The patient should also be instructed as to the theories and importance of thorough mastication and appropriate diet. As the result of previous experiences, it has also become the writer's routine to explain, in as concise and plain terms as practicable, to the patient the existing condition, thereby preventing unnecessary anxiety, as well as further attacks.

My conviction, gained from the treatment of a good many cases of this kind, is, that the *status vertiginosus* as a sequence of gastric vertigo only proves the lack of knowledge of the chemistry and physiology of digestion, or of inappropriate treatment, on part of the attending physician.

205 West 105th Street.

AN INTERESTING CASE OF SPLENIC ANEMIA.[1]

AN INTERESTING CASE OF SPLENIC ANEMIA.*

BY HERBERT MAXON KING,
OF GRAND RAPIDS, MICH.

WITHIN the last year or two considerable attention has been given to the pathology and clinical history of a condition characterized by a marked enlargement of the spleen associated with a progressive anemia, usually terminating in death. Investigation to the present time has seemed to identify in this condition a pathological entity which, for convenience and to avoid as far as possible annoying confusion in nomenclature, is generally understood by the term "splenic anemia." Among several other terms used to designate the same disease "splenic pseudo-leucemia" and "*spleno-megalic primative*" are perhaps most common; both, however, fail to convey a clearer meaning, and are even more ambiguous, while the latter has the additional disadvantage of being recently employed to designate a condition quite distinct, pathologically, from that which is usually understood by splenic anemia.

In November, 1899, B. W. Sippy published in the *American Journal of Medical Sciences* a critical summary of the literature on splenic anemia; and in the following January an interesting article on the subject by Osler appeared in the same journal. Sippy found the number of cases, clinically recognized, up to the time of his writing, not to exceed twenty-five. A number of cases have been reported since the appearance of his paper, but the total is still comparatively small.

[1]Read before the Academy of Medicine of Grand Rapids, Mich., October 16, 1900.

David Bovaird, Jr., in the *American Journal of Medical Sciences*, October, 1900, gives a very interesting report of two cases similar in many respects to splenic anemia, but which have pathological distinctions which, he considers, place them in a group by themselves hitherto unrecognized and which he terms "primary splenomegaly."

The following case, seen through the courtesy of Dr. J. A. McColl, is clinically one of splenic anemia, and, while fairly classical in essential features, it differs sufficiently in minor points to be of considerable interest. It will be seen that the blood-changes which we found in our case are far more marked than those generally reported and would in the absence of the enormous splenic hypertrophy be sufficient to place it within the category of the primary anemias.

Unfortunately, we were unable to secure autopsy in this case, indeed the patient left the hospital and refused to see her physicians several months before her death, and consequently this report is of necessity incomplete, being limited to the clinical aspects of the case alone.

Photograph showing area of cardiac dulness, apex beat, outline of splenic border and crest of ilium.

In October, 1899, Dr. J. A. McColl kindly asked me to see the subject of this report, a patient who had but lately before come under his observation. The case was found, upon superficial examination, to be of such interest that the patient was admitted to one of the free beds at Butterworth Hospital, where in due course the following history was obtained:

A woman, forty years of age; born in Yorkshire, England, where she lived until adult life; she has since lived in Michigan. She could give no account of her father. Her mother died at the age of fifty-eight years of an "obscure trouble in the left side" (an interesting fact in view of the present case). She has one living sister, older than herself and in good health, and has never lost either brother or sister. At nine years of age patient began work in a factory in Yorkshire, where she remained until her marriage at the age

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of seventeen. Menstruation was established at fifteen years, has always been and still is regular, lasting three of four days with some dysmenorrhea. At eighteen years she gave birth to a healthy child, who at time of this examination is living and in good health. A second child, who died soon after birth, was born in her twenty-third year. Her husband died from an accident at forty years of age, and in her thirty-seventh year she married a man much older than herself with whom she is at this time living. She has never been in a malarial district and gives no suggestion of syphilitic taint. She is evidently a woman of ordinary intellectual capacity, but is profoundly ignorant.

She states that until July, 1899, she was always perfectly well; at that time she was suffering from an obstinate constipation for relief of which she took two pills from a sample which had been left at her door as an advertisement. She dates her illness from this occurrence, following which she had a severe diarrhea, passing at times considerable blood, which persisted for three weeks. She then partly recovered and undertook to proceed with her household duties. Following a day's hard work she had a relapse, from which she has never recovered and chiefly for which she consulted a physician. Her more intimate friends say that for a number of years she has had a "peculiar, pale yellow color." She had probably lost in weight, but at the time of examination and subsequently as long as she was under observation, was not emaciated. She complains of griping pain in the abdomen, somewhat paroxysmal, attended with diarrhea and extreme prostration.

Examination.—As above stated there is little or no emaciation. The face wears an anxious expression. There is a slight puffiness under the eyes and a perceptible edema of the lower extremities. The skin presents a peculiar, yellowish pallor which characterizes primary blood-lesions. The abdomen is not prominent. The vessels in the neck pulsate markedly. The conjunctivæ are very pale and have a fatty appearance. The mucous membranes are very pale and the teeth badly decayed. There is slight dulness and faint wheezing râles at apex of the left lung. The apex beat is 3½ inches to left of median line in fourth interspace. The area of cardiac dulness is not enlarged. There is a noticeable murmur, both systolic and diastolic in rhythm, beginning before, and persisting after, the second sound, with a maximum intensity at the second *left* interspace and sternum, diffused over the whole superficial heart area, but not heard behind or along the vessels of neck. The mobility of the left chest is restricted with upward displacement of the viscera and downward excursion of left diaphragm limited to level of fifth rib.

Palpation of the abdomen does not elicit pain. It is slightly tympanitic to percussion on the right side; the left lobe of liver is palpable, but the organ as a whole is not perceptibly altered in size, shape or feel. The kidneys are not palpable. The spleen, enormously enlarged (see photograph), retains, however, the contour of a spleen even to the notch in anterior border. It fills nearly the whole left half of the abdomen, the anterior lower border falling below the crest of ilium in ordinary posture. while the right anterior border is palpable to the median line. Palpation of the mass does not elicit pain. The pulse is full, soft, rather "bounding" in character, and 104; temperature, 100.2° F.; respiration not markedly disturbed. An occasional cough is productive of slight mucous expectoration, containing no tubercle bacilli. The urine is of low specific gravity; deficient in the salts and fails to respond to the tests for albumen, peptones, sugar, bile and indican, while the sediment contains no formed elements of significance.

The peripheral blood was examined October 6th and again October 12th. The splenic blood obtained by aspiration was studied qualitatively a day or two subsequently and found to differ in no important feature from the peripheral blood.

Following is the report of the blood examinations made October 6, 1899:

Quantitative.—Red corpuscles, 950,000; leucocytes, 780; hemoglobin, 15 (Von Fleishl); color index, .83.

Differential Computation of Leucocytes.—Small lymphocytes, 22 per cent.; large lymphocytes, 5 per cent.; polymorphonuclear neutrophiles, 55 per cent.; eosinophiles, 0; transitional forms, 3 per cent.; myelocytes, 15 per cent.

It will be seen that with the exception of the myelocytes, a normal relation exists between the varieties, the greatly reduced total number of leucocytes per cubic millimeter is not unusual in profound primary anemias.

The large percentage of myelocytes if persistent would point to a myelogenous leucemia notwithstanding the low total of leucocytes, but subsequent examinations failed to sustain this large percentage for which I cannot satisfactorily account at this time.

Qualitatively, the blood evidenced destructive changes of a character more profound than I have ever remarked in any condition except that of pernicious anemia.

There was marked poikilocytosis. Sippy states that in splenic anemia "there is no marked alteration in the form and size of the red corpuscles. Poikilocytosis has not been recorded. . . . Nucleated red corpuscles have not been observed."

In our case there was not only marked poikilocytosis, but also polychromatophilia, macro- and microcytosis, while a little more than two nucleated red corpuscles were counted to every 100 leucocytes; these were mostly megaloblasts, some of the nuclei of which presented beautiful kariokinetic figures.

On October 12th blood examination resulted as follows:

Quantitative.—Red corpuscles, 875,000; leucocytes, 3,150; hemoglobin, 15 (Von Fleishl); color index, .86.

Differential Computation of Leucocytes.—Small lymphocytes, 22½ per cent.; large lymphocytes, 8 per cent.; polymorphonuclear neutrophiles, 61 per cent.; eosinophiles, 0; transitional forms, 4½ per cent.; myelocytes, 4 per cent.

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Qualitatively the changes in size, shape and color reaction were identical with those of the former examination.

In counting 200 leucocytes there were noted nucleated red corpuscles as follows: Normoblasts, 2; megaloblasts, 13; and other anomalous forms, 5. As above stated the splenic blood differed in no essential feature from the peripheral blood.

A few days following the last blood examination the patient left the hospital and was not seen again by either Dr. McColl or myself. The case terminated fatally the following December and autopsy was unobtainable.

The points of interest in the case rest chiefly upon its evident close relation to splenic leucemia on the one hand and pernicious primary anemia on the other; but our study of the blood, with that of the clinical history of the case in general, convinces us that it belongs to the group of obscure toxemias most conveniently included under the head of splenic anemia.

MEDICAL PROGRESS.

Suprarenal Gland Extract and Epistaxis.—LEWIS S. SOMERS (*Phila. Med. Jour.*, March 2, 101) discusses the dangers of sepsis from the use of the extract of suprarenal gland in epistaxis as the drug is usually employed. There is no question but that the drug possesses qualifications rendering it superior as a local hemostatic and vasomotor constrictor to all other remedies. The writer has found that by adding one grain of pure carbolic acid to a dram of sterile water containing ten grains of adrenal extract and then filtering through paper, a solution is obtained that retains the maximum efficiency and is both sterile and permanent. He has used this formula for some time and has always found it reliable. This solution is improved, however, by adding to it a sufficient quantity of eucain to make a one,- two,- or three-per-cent. solution. By this addition an anesthetic action is obtained as well as the full vasoconstrictor action of the extract of suprarenal gland. The method of using this solution in an acute case is to place a pledget of cotton saturated with it over the point of bleeding, if possible, for a few minutes, then thoroughly spray the nostril with the same solution, and, finally, to cleanse the parts with a simple alkaline solution. In a chronic or persistent case it may be necessary to place a pledget of cotton saturated with the adrenal solution loosely in the nostril every night, or once or twice a day, or to drop a few drops of the solution in the nostril twice a day. The writer reports a few cases illustrating the efficiency of this remedy and the different ways of using it.

Paralysis Agitans.—Most forms of tremor can, according to J. M. TAYLOR (*Jour. of Nervous and Mental Dis.*, Mch., 1901), be benefited by regulated and systematized movements such as shall reëstablish the greatest elasticity in the contractured tissues. Passive extensions and flexions should be followed by active similar motions. The most important movements to overcome the milder forms of tremor, as the senile form, are slow, full, forcible extensions. At the same time the respiratory capacity should be constantly exercised by lung gymnastics.

Brain Abscess and Empyema.—Brain abscess from pulmonary disease is not very common. While an abscess may be caused by disease of either lung or pleura, it more usually results from the former. T. A. CLAYTON (*Phila. Med. Jour.*, March 2, 1901) reports the case of a man twenty-two years of age, who, after an attack of malaria contracted in Cuba, had a bad empyema. After an illness of two months, during which time paracentesis was performed twice and a resection of part of the seventh rib was done, and later a resection of portions of the fifth, sixth and seventh ribs, the patient recovered from the empyema. But about three weeks later the patient returned complaining of having had a chill, with headache, high fever, nausea, and profuse sweating. There was a second chill with the accompanying symptoms, and since then he had had an intense pain in the head, extending all over the cranium and down the back of the neck. Whenever food was taken, vomiting occurred. He was constipated. Temperature was 103.2° F., pulse 120, respirations 24. His face was flushed and had an anxious expression upon it. His tongue was clean. The usual remedies for headache failed to relieve. It was thought that his condition was due to a reaccumulation of pus in his chest. His headache continued and the nausea was continuous. He became delirious, refused nourishment, and sweated profusely. On the fifth day his temperature rose to 104.4° F., there was for the first time rigidity of the neck, and he died. During this attack there was no strabismus, no paralysis, no inequality of the pupils. The autopsy showed multiple abscess of the brain, a very small area of basal meningitis, parenchymatous nephritis and beginning degenerative change in the liver-cells. From the findings of the autopsy Clayton thinks that there is no reason to doubt that the abscesses in the brain were metastatic from the old empyemic fistula. He is unable to explain why the abscesses should form in the white matter of the brain and not in the spleen, liver, kidneys, etc. The writer cites 58 cases, in literature, of brain abscess resulting from primary lung disease, showing that empyema is only second to bronchiectasis as a cause.

Cysts of Ovarian Remnants.—H. EHRENFEST (*Centralbl. f. Gyn.*, Feb. 23, 1901) says that the question is still open whether or not the patient is served or damaged by leaving behind ovarian tissue in certain operations.

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Although the formation of cysts in these stumps is not any more frequent than that of carcinoma in the stump of the cervix after supravaginal amputation, it is common enough in literature to render the consideration of total ablation of the ovary pertinent. A safe principle will be that, when an ovary is cystic, or is part of a diseased appendage or lies in a diseased peritoneal pouch, a complete extirpation will be wise.

Sensitiveness of Abdominal Cavity.—K. G. LENNANDER (*Centralbl. f. Chir.*, Feb. 23, 1901) has been making observations on the nervous supply of the abdominal parieties, peritoneal investment and viscera with special reference to its bearing on operations on the organs and wall and local and general anesthesia for them. He arrives at the following conclusions: (1) The peritoneum parietale is rich in the nerves of *pain* sense; (2) the peritoneum viscerale, gastric and enteric canal, gall-bladder, kidneys and liver are bereft of nerves for the senses of *pain, touch, heat* and *cold,* so far as his present observations have indicated. As a very valuable means of anesthesia and a substitute for either pure local or pure general anesthesia, he has found combination of both a very valuable procedure. He has found that an application of local anesthesia by the method of Schleich and just enough chloroform or ether to stop vomiting will permit any procedure to be carried on.

General Paresis and Brain Tumor.—WHARTON SINKLER (*Phil. Med. Jour.*, March 9, 1901) remarks upon the frequency with which patients having general paresis have symptoms which simulate localized disease of the brain, such as brain tumor, and says that the convulsions which often occur as a late symptom of general paresis frequently begin in or may be confined to one arm. These convulsive seizuers sometimes are almost typically Jacksonian in character. As the paresis progresses these seizures may involve the whole side of the body and there may be unconsciousness for a variable length of time. Then, too, after a convulsion, paralysis may be more or less complete in the arm or whole side for several days. When the right side of the body is the one affected aphasia may be present, either transient or more or less permanent. The differentiation between general paresis and brain tumor, when the symptoms of the former condition are not marked is rather difficult. This is especially so when the mental symptoms of paresis are not pronounced. The writer reports in detail two cases illustrating the similarity between the two conditions, general paresis and tumor or other gross lesion of the brain.

Appendicitis Simulating Strangulated Hernia.—J. B. PIKE (*Lancet*, Feb. 23, 1901) reports, on account of its rarity and highly instructive diagnostic value, a case of chronic appendical abscess simulating strangulated inguinal hernia. The well-nourished, thirty-five-year-old man was seen first by him in consultation Jan. 7, 1901; had had a severe attack of abdominal pain, nausea and vomiting, as a recurrence of several previous mild attacks of the same kind and as a sequela noticed six months later a right inguinal swelling disappearing when lying down except when turned on the right side. Jan. 5th, a violent recurrent attack appeared; on the 6th, with obstruction and stercoraceous vomiting; on the 7th an enema produced a passage of gas, fluid feces and scybalæ. That night in the dorsal decubitus position he showed slight general abdominal distention and tenderness, fulness in the right iliac region, an oblong mass in the inguinal canal free from impulse on coughing, and obliteration of the external abdominal ring. Under ether the ring could be outlined, but the character of the canal contents could not. The patient died before any operation could be performed. At the autopsy were found an old appendical abscess with a prolongation into the inguinal canal, a perforated appendix, a perforation in the abscess wall and peritonitis. Whether any one could have made the diagnosis or will make it under such data is doubtful, but the case is extremely instructive as showing a remarkable condition.

Hernia in the Aged.—C. S. BREBNER (*British Med. Jour.*, Feb. 23, 1901) reports for Mr. Plummer a case of strangulated oblique hernia in an eighty-year-old man. The hernia was of twenty years' standing, had always been readily reducible until the morning of his admission to the Edinburgh Royal Infirmary, on December 22, 1900. No truss had been worn at any time. On admission he presented great feebleness of old age, marked muscular tremors, very like those of paralysis agitans, a large scrotal right oblique inguinal hernia, hard, tense and tender, absolutely irreducible, unaffected by taxis and enemata. Defecation had last occurred December 21, 1900. His skin was prepared for operation and ice applied locally. Under chloroform part of the rupture returned spontaneously, but the balance persisted. Ball's operation for radical cure was done and the bowel, found to be universally healthy, was all returned into the abdomen. Excepting a rise of temperature during the first three days and restlessness the course was straightforward and primary union resulted. The patient was discharged on the 8th of January in excellent local and general condition. Mr. Plummer employs Ball's operation in the aged on account of its rapidity and he usually does not cut the ligature about the sac short, but passes an end through each pillar of the external ring, thus checking any untwisting of the sac and the need of a deep ligature as recommended by Ball.

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Normal Salt for Gonorrhea.—Freedom from complications is still considered of far more importance than short duration, the aborted cases often retaining the attenuated germ in the tissues ready to take on virulent growth at a favorable opportunity. The gonococcus is a frail germ not capable of growing at above 100.4°F., and having its virulence and reproductive power destroyed at 103°F. Therefore C. E. WOODRUFF (*Med. Rec.*, Mch. 16, 1901) argues that if hot solutions can be introduced into the urethra without injuring the tissues, the disease will be cured. But as plain water is irritating to all mucous and serous membranes, he uses normal salt solution. Irrigations of this every one or two hours remove the poisonous toxins of the gonococcus, destroy the virulence of the germ, and soothe the urethra. Ninety-eight cases treated show cure in from two days to four weeks, but usually in ten to fourteen days.

Formaldehyd versus Sulphur Fumigation.—To test the comparative value of sulphur and formaldehyd, R. G. SCHNEE (*Cleveland Med. Gaz.*, Mch., 1901) used a room with 1,003 cubic feet space, containing carpet, bedding and furniture. The windows and doors were sealed moderately well, but cracks in plaster and baseboard were left alone. Twenty-four-hour bouillon cultures of typhoid, diphtheria and staphylococcus aureus germs, and five-day cultures of anthrax rich in spores were used. Cover-glass smears were dried and wrapped in one layer of sterile lens paper, and others in two layers of cotton comforter. Cotton threads were soaked in the cultures, dried, and placed in short open tubes of large caliber and similar threads in one layer of cotton comforter. Twenty-four-hour cultures on Loeffler's blood-serum were exposed with cotton plugs removed. Duplicates were exposed in all cases, and control cultures kept. Two experiments were made with 3 and 6 lbs. respectively of sulphur in a dry atmosphere, and of the same with the objects moistened with sterile water. The room was not opened for sixteen hours. With formaldehyd, Parke, Davis & Co.'s generator with 150 c.c. formalin were used dry and moist, and the test was also made with Moffat's generator, dry and moist. Sulphur in 6 lb. quantities was nearly as efficient as dry formaldehyd, but the latter when moist was more effective. The objects wrapped in cotton comforters were disinfected by neither. When large rooms are to be fumigated, paraform, 60 grains, may be dissolved in 150 c.c. formalin containing borax, this amount disinfecting 2,000 cubic feet. A good enough apparatus consists of a 1,000 c.c. Bohemian glass flask with a thistle-mouth funnel reaching nearly to the bottom and a conducting tube to carry the vapor through the key-hole. This, heated with a Bunsen lamp, is nearly as effective as an expensive apparatus. All cracks in the room should be stuffed up to prevent leakage.

THERAPEUTIC HINTS.

Impetigo in Children.—Until the crusts have fallen, G. CARRIERE employs gauze compresses saturated in a decoction of walnut leaves. He then applies peroxide-of-hydrogen compresses, covered with rubber tissue, renewed once a day. He also gives small doses of calomel internally.—*Le Nord Médical.*

Acute Serofibrinous Pleurisy.—For small effusions, C. E. NAMMACK (*Med. Rec.*, Mch. 9, 1901) applies guaiacol or iodine, gives magnesium sulphate, limits fluids ingested, and has patient take much table salt. He advises tapping if life is directly threatened or endangered by asphyxia from compression, or by cardiac weakness, or when the fluid has risen to the third front interspace, or in lesser effusions when spontaneous absorption is delayed for more than a few days. The underlying cause must also be treated.

Tympanites in Children.—FREYBERGER administers three times a day for two days a teaspoonful of

℞ Sod. sulphocarbol..0.25-0.50 (gr. iv-viii)
Syr. aurant cort.. 5.0 (℥i¼)
Aq. menth. pip.... 25.0 (℥vi¼)

—*Jour. de méd. de Paris*, Feb. 17, 1901.

Stomach in Heart-Disease.—CARRIÈRE finds digitalis the most certain, but if there is flatulency he precedes a meal with ℥i of

℞ Tinct. nux vom....gm. 5.0 (♏lxxv)
Tinct. gentian..... 10.0 (℥iiss)
Tinct. rhei aromat.
Aq. lauro-cerasi aa. 20.0 (℥v)
Aq. menth viridis ad. 100.0 (℥iii-℥iiss)

If the patient eats well have him take during the meal a tablespoonful of

℞ Ac. hydrochlor....gm. 3.0 (♏xlv)
Strych. sulph. ... 0.5 (gr. ⅝)
Aquæ..... ..... 300.0 (℥x)

or Coutaret's formula:

Ac. sulphuric....gm. 2.40 (♏xxxvi)
Ac. nitric..... 0.80 (♏xii)
Alcohol ..... 18.0 (℥ivss)

Allow to stand forty-eight hours and add:

Syrs. limonis....gm. 100.0 (℥iii ℥iiss)
Aquæ ..... 150.0 (℥v)

The food must be light, the patient quiet during digestion. For the attacks of gastric distress give a teaspoonful of

℞ Aq. chloroformi....gm. 60.0 (℥ii)
Cocainæ hydrochlor. 0.20 (gr. iii)
Aq. aurant flor.... 20.0 (℥v)
Aquam ..... 40.0 (℥x)

Uncontrollable vomiting may be relieved by adding to each feeding of milk one to four drops of

℞ Picrotoxin .....gm. 0.12 (gr. ii)
Alcohol, q. s. to dissolve
Morph hydrochlor. 0.06 (gr. i)
Atrop. sulph..... 0.01 (gr. ⅙)
Aq. lauro-cerasi.... 12.0 (℥iii)

—*Jour. de méd. de Paris*, Feb., 1901.

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SATURDAY, MARCH 23, 1901.

SURGICAL PROPHYLAXIS OF NEPHRITIS.

WE present in this issue of the MEDICAL NEWS a lengthy abstract of the address of Prof. Reginald Harrison (London) to the students of Cornell Medical College on Retrospects and Prospects in Genito-Urinary Surgery. One feature of the prospect in the surgery of the urinary tract Mr. Harrison touched on but lightly, perhaps because its initiation was due to his own labors. It is the question of the significance of kidney tension in the production of albuminuria and even of suppression of urine and the problem of operative relief for the condition.

Kidney diseases remain one of the therapeutic opprobria of scientific medicine. We have learned to diagnose the various forms of nephritis, but we are utterly unable to influence their course. Of late years we have come to realize more and more our helplessness in treating this class of patients, owing to the wear and tear of the strenuous life, and the greater addiction of men generally to spirituous liquors and irritating concentrated foods has become far more frequent than it was. It is universally conceded now that the acute nephritis, which frequently follows scarlet fever and other infectious diseases, not rarely is the starting-point of the chronic nephritis which so often proves fatal in adult life. Even with the most careful prophylaxis, however, these acute nephritides develop in certain patients. At times they run so insidious a course as to be unsuspected. In others they produce very marked symptoms.

Dr. Harrison proposes to interfere surgically in some of these severe cases. He considers that the effort to eliminate toxins present in the circulation leads to overcongestion of the kidney. The irritating nature of the toxic substances in solution in the blood provokes additional congestion by interfering with the vasomotor apparatus of the kidney. The delicate secreting material of the kidney is surrounded by an absolutely unyielding fibrous capsule. In addition to this there are partitions of fibrous tissue extending down to the hilum of the organ that prevent compensatory dilatation of congested portions. The result of this continued congestion is permanent injury of the secreting mechanism of the kidney. This state of overcongestion is not merely imaginary nor theoretical. After death from scarlatinal nephritis it is usual on autopsy to find the kidney intensely congested, the capsule tense and stretched, the whole organ of a shining dark color and overfilled with blood.

The clinical feature of these cases is the suppression of urine that leads to the fatal termination. Oliguria gradually progresses to absolute anuria and then so-called uremia develops. This urinary suppression Dr. Harrison attributes to what he calls renal glaucoma, that is, to a state of intrarenal pressure that inhibits function by interfering with the normal action and nutrition of delicate cellular tissues. The analogous condition in the eye from intra-ocular tension is well known, its sad results are now recognized and surgical measures for its relief are considered the only justifiable treatment. Mr. Harrison's suggestive name has been well chosen and he proposes to relieve the corresponding condition in the kidney by an incision that will relieve the intrarenal pressure.

He has had experience himself in several cases. In the first case it was expected that suppuration would be found in or around the kidney. The patient had had scarlet fever some three weeks before, and scanty albuminous urine with great lumbar pain were the permanent symptoms. When the kidney was opened a gush of blood relieved the pressure. The pain ceased at once. The urine gradually became more plentiful and the albumin disap-

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diagnosis a needless operation had been done. Dr. Harrison has had some experience also in cases of persistent chronic congestion in which disorganization of the intricate secreting mechanism of the kidney was prevented by incision. Subsequent drainage prevented the recurrence of the congestion until the vasomotor mechanism of the kidney regained its control.

Dr. Harrison suggested in an article in the *Lancet* some time ago that "the operation should be reserved for cases in which there is evidence that the recuperative power of the kidneys suffering from nephritis is overweighted. When after an attack of this kind, the albumin is not disappearing from the urine and there is a prospect, unless some relief is found, of permanently damaged kidneys resulting, then a trial of this expedient (exploration through a small transverse lumbar incision with division of the kidney capsule where deemed advisable) may be undertaken without adding to the gravity of the circumstances." As these cases are absolutely unamenable to medical treatment and as even when an immediate fatal termination does not follow, subsequent chronic nephritis is not unusual. Dr. Harrison's suggestion may prove of great value in hitherto discouraging and almost hopeless conditions.

The subject is well worthy of the most careful study and would seem to justify surgical boldness that may lead to precious results in a field where present-day medicine feels itself almost more than anywhere else at a loss.

PHYSICIANS' ORPHANS' HOME.

No man gives so much gratuitous work to the world as the physician, and no man leaves so little behind him, for the reason that with his death his income stops abruptly. There is no business that can be conducted in his children's interest, no pension to be paid to his widow. And to make the outlook more hazardous it is a well-known fact that the physician's life is ten years shorter than the lawyer's, and fifteen years shorter than the minister's. Infectious diseases caught from his patients, pneumonias from midnight calls, and overwork reduce the average life of a doctor to forty-five years. For few indeed is there "slippered ease."

In order to increase his income he is generally spirit that makes him give all his time and energy to others precludes a selfish saving for himself. The consequence is that the accident of death often leaves a family of children, of fine intellectual heredity and good breeding with almost nothing for their support or education.

A Physicians' Orphans' Home for the children of deceased physicians appeals to us as a most wise and right object of charity. An organization has been effected to establish and maintain such a home for the care and education of the helpless little ones of brother physicians, by endowments and subscriptions from the profession, under whose management and control it will be.

The committee that has had the location for such a home in view has considered sites in Asheville, N. C., Louisville, Ky., Colorado Springs, Col., Canton, Ohio, and Lookout Mountain, Tenn., but has finally settled on Bristol, Tenn. and Va., as the place where the most suitable site may be obtained; and has secured an option on a certain hotel property, apparently well situated in wooded grounds. Thirty-five thousand dollars still remains to be raised in order to put the orphanage in operation; and to obtain this, as well as funds for its maintainance, a personal plea is being sent to every physician in the United States to assist the enterprise.

The object cannot fail to arouse the interest of every physician who is a father, if only out of pity for the child of his brother who may be left destitute. Not only physicians, but patients whom they may interest, will recognize that it is a movement of great economic value, as it will tend to develop some of the best material of a coming generation, and that it is a fitting tribute to the unselfishness of the profession.

MEDICINE, POETRY AND PROPHECY.

Mr. Stephen Philips is acknowledged to be the living English poet whose works deserve the most serious attention. No less than five important magazines have had articles on his work during the last month or two. The opening article in the January number of the English *Nineteenth Century and After* is a poem of prophecy by him reminiscent of the accomplishments of the century just past and glimpsing the work that the new one will do. It is interesting to note how much that the poet finds of real advance in the past is medical and how much of progress foretold must come from the profession whose un-

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selfish work the public has, as a rule, misunderstood and at best is only just beginning to appreciate.

Speaking with the voice of the Lord in cadenced verse of striking dignity, the poet finds first to record the surcease from pain that Nineteenth Century medical progress has brought.

"In the years that have been I have made an oblivion for anguish,
And stillness in place of a cry.
I have lain around the knife as a numbness, on nerves as an ether.
I am He that hath healed, saith the Lord.
I have fallen as a veil upon woe, as a slumber on sorrow,
As a blank on the reeling brain.
In the years that have been I have shown me a smoother of pillows,
A closer of fixed eyes."

This is the main part of true achievement for man in the past. The future is radiant with progress that will still further lessen the weight of human suffering.

"In the years that shall be I will come as an healer to cities
And as dew to a parched land.
And the city of furnaces shall fade, the city of wheels,
The city of the white faces,
The girding city, the city of gongs, and of hammers,
Whose floor is of embers and ashes."

How tempting is the poet's vision of a city life that shall care first for the health of its people and thus for their true happiness! When the strenuous life shall be as if it were not, because its deep, wasteful, unwholesomeness shall be far from the common life of the people. Then the poet rises to the vision of further achievement when even the grave shall lose its victory and death its sting.

"And the dead whom ye loved ye shall walk with and speak with the lost
The delusion of death shall pass,
The delusion of wounded earth, the apparent withdrawal,
The snare of sightlessness vanish.
Ye shall shed your bodies and upward shall flutter to freedom.
For a moment consent to the ground."

So shall time bring mead of progress, thinks the poet, until pain and death are no more.

"At the wheels of my chariot pacing like alien captives,
Anguish and Time and Death."

The poet's ecstatic vision is too fair ever to be realized here below, but it is something for medical men to contemplate in the midst of sordid, unsatisfying realities that the highest ideals to which the poetic imagination can rise are intimately connected with the work of the profession to which they belong. It is provocative of a thrill of encouraging self-satisfaction at the beginning of the new century to realize that the daily round of little duties is a constant factor in the loftiest purpose there is—the lifting of humanity out of the pain and misery that have been its lot.

ECHOES AND NEWS.

NEW YORK.

Middleton Goldsmith Lecture.—This annual lecture under the auspices of the New York Pathological Society, will be delivered at the New York Academy of Medicine, No. 17 West Forty-third street, on Tuesday evening, March 26th, at 8.30 o'clock, by Prof. Charles Sedgwick Minot, M.D., Professor of Histology and Human Embryology, Harvard Medical School. Subject: "The Embryological Basis of Pathology." All members of the medical profession are invited to attend.

New York Academy of Medicine.—Section on Laryngology and Rhinology, Wednesday, March 27th, Dr. W. F. Chappell will present a paper on "Tuberculosis of the Tongue"; Dr. C. G. Coakley on "Tuberculosis of the Tonsils, Accompanying Tuberculous Glands of the Neck"; Dr. Emil Mayer will report on his "Clinical Experienced with Adrenalin."

The Section on Obstetrics and Gynecology will meet Thursday, March 28th. Dr. R. Waldo will read a paper on "Sactosalpinx Hemorrhagica" and Dr. A. F. Currier one on "Early Diagnosis of Ectopic Gestation."

Resignation of Dr. Delafield.—At the February meeting of the Board of Trustees of the School of Medicine of Columbia University the resignation of Dr. Francis Delafield as professor of the practice of medicine was accepted, to take effect June 30, 1901. Dr. Delafield had contemplated this step for some time. His connection with the school has been a long and close one. After his graduation in 1863 he was appointed clinical assistant to Dr. Alonzo Clark, the professor of pathology and clinical medicine; in 1882 he became Dr. Clark's successor. It is understood that Dr. Walter B. James, P. & S. 1883, will be his successor.

Health Board and Spitters.—The Board of Health is after the spitters in street cars, ferry boats and public buildings in earnest. At the regular meeting of the Board last week, a resolution was adopted directing the Sanitary Superintendent to enforce rigidly compliance with Section 194 of the Sanitary Code after April 1, 1901. The section referred to prohibits spitting in various public places. Members of the Sanitary Department would not say just what measures would be taken to enforce the law, but it was intimated that after the 1st of next month sanitary inspectors would ride about on

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street cars and visit ferry houses and boats and public buildings and would arrest on the spot any person they caught spitting on the floor.

Sneak Thieves Abroad.—Dr. Clement Cleveland's residence was entered by sneak thieves who carried away some valuable jewelry.—In the lower West Side an ingenious sneak thief calls early with a note to the doctor asking him to call at a house in the vicinity. While the servant is taking the note to the, perhaps slumbering, physician, the thief "looks around." Later in the day the physician finds his note a blind and his prospective patient is not forthcoming; it may be that his overcoat has disappeared.

New York Medical Society for Clinical Research.—A society bearing this name has just been organized. Its object is to encourage young physicians to thorough clinical work and original research. To further these objects a library and laboratory have been established wherein the members may do their special work. The officers for the ensuing term are: Dr. Gutman, President; Dr. Mandel, Vice-President; Dr. Libman, Secretary; Dr. Spivac, Treasurer. Any regularly licensed practitioner who is a graduate of a regular medical college in good standing is eligible to membership.

Maternity Hospital Incorporated.—Daniel S. Lamont, Cornelius Vanderbilt, Frank L. Polk, Henry C. Thompson and William Thorne of New York, Moses Taylor of Mount Kensico and Percy R. Pyne of Barnardsville, N. J., are directors of the Manhattan Maternity Hospital and Dispensary of New York City, which filed articles of corporation March 18th with the State Board of Charities. It is proposed to maintain a maternity hospital and dispensary and a training school for nurses in New York City.

American Congress of Tuberculosis.—It is announced that the second annual meeting of the American Congress of Tuberculosis will be held at the Grand Central Palace, in the City of New York, on the 15th and 16th days of May, 1901. The medical profession of all countries is invited to contribute papers to be read before this Congress in their behalf by a committee selected for that purpose, in case of the inability of the author to attend; and to enable those who could not hope or expect to be present to participate in the work and usefulness of the body. As the questions to be discussed involve remedial legislation, legislators, lawyers, judges, and all publicists, who take an interest in the subject, are also invited, both to enroll and contribute papers.

PHILADELPHIA.

Hospitals Benefited by Charity Ball.—The proceeds of the twenty-first annual Charity Ball were $11,200 which will be divided among the hospitals of the University of Pennsylvania, the Jefferson Maternity, the Philadelphia Orthopedic Hospital and the Infirmary for Nervous Diseases, and the Samaritan Hospital.

St. Joseph's Hospital.—The trustees of this hospital have recently appointed two pathologists, Drs. Randle C. Rosenberger and Alfred Hand, Jr., each of whom is to serve six months yearly.

Consumption a Notifiable Disease.—The Board of Health has taken the following action regarding consumption: *Resolved,* That tuberculosis be hereafter included in the list of pestilential or contagious diseases required to be reported to the health officer." Cases are not to be given publicity by the placarding of houses or by placing them under undue restrictions. It is the intention of the health authorities to coöperate with the medical fraternity in keeping consumptives under surveillance and thus check the spread of the disease.

Nurse Seeks Reinstatement.—A writ of alternative mandamus returnable March 25th has been secured by Miss Mariana Wood in her suit against the Pennsylvania Hospital for reinstatement to her position as nurse. Miss Wood was prominent in Philadelphia society circles, but entered the hospital as a nurse in 1898. In August, 1900, she was dismissed from the hospital for violating the rules by "slapping" a patient. Miss Wood has made fruitless efforts to appear before the managers of the institution to justify her conduct. It is now incumbent upon the hospital authorities to file a justification of Miss Wood's dismissal or reinstate her before March 25th.

Memorial Hospital in Pittsburg.—By the will of the late C. L. Magee nearly the entire estate of $6,000,000 is eventually to be applied to the founding of a general hospital to be known as the Elizabeth Steel Magee Hospital in honor of the testator's mother. The will, after stating that the hospital is to be open to the sick and injured of all classes, reads: "I especially desire the admission to this hospital of all females who may apply for admission thereto for lying-in purposes and that they be admitted without any questions being asked as to their past lives or names." A law passed at the last session of the Legislature prevents the building of the hospital on the grounds specified, as it prohibits the erection of a hospital in the built-up portions of the cities of the first and second classes. Memorials urging its repeal are being signed.

Whisky in Snake-bite.—Dr. Joseph McFarland at a recent meeting of the Pathological Society detailed the results of attempts to obtain immunizing serum from horses after the injection of snake-venom. Being asked by the President, Dr. Packard, if the effect of snake-venom upon the heart warranted the widely-spread the belief that whisky was an efficient antidote, Dr. McFarland replied that strychnine was more nearly a physiological antidote as death usually was due to paralysis of the re-

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good when given in cases of rattlesnake bite. Such bites are seldom fatal in this country under any treatment, the fatalities being probably less than 5 per cent.

Bubonic Plague Not Dreaded.—The Treasury Department on January 20th appointed a commission to investigate the alleged bubonic plague conditions at San Francisco, there being a controversy between the municipal authorities and the State officials on the point whether there was a genuine case of the plague in the city, the municipal authorities affirming the existence of it. As reported in the MEDICAL NEWS, the commission consisted of Prof. Simon Flexner, of the University of Pennsylvania; Prof. F. G. Novy, of Ann Arbor, and Prof. L. F. Barker, of the University of Chicago. Their report has been completed and submitted to Secretary Gage. According to a Philadelphia daily Prof. Flexner was asked to say something about the nature of the report. "I cannot, of course," he said, "make any definite statement as to the opinion of our committee, or even as to our work, until the proper authorities have published our report. There is, however, so marked, and perhaps so natural, a tendency in every community to worry over a thing of this sort that I am very glad to say that there is no occasion anywhere in the United States for any alarm." Prof. Flexner would offend against ethics, says the *Sun*, if he were to say that the bubonic plague had appeared in San Francisco. But supposing the existence of it to be proved there would be no cause for apprehension, judging from the success with which the medical men have combated the disease wherever it has been diagnosed. It has been proved that it thrives on dirt and bad ventilation, and quickly succumbs to prompt sanitary measures. In a squalid tenement district it would be dangerous only so long as the houses could not be cleaned and disinfected. The bubonic plague caused a scare when it first appeared in Glasgow, but its spread was soon checked and the deaths that occurred did not show a high mortality rate. There were familiar diseases prevalent at the same time which were more deadly. The plague was also reported at Manila, and there were fears for our army. They soon subsided, for the once dreaded fever overran no quarter. It is now officially existent in South Africa, but although the health of the British army is avowedly very bad, the medical staff is losing no sleep over the sporadic cases of bubonic plague. Historically its reputation could not be worse, but either it has lost its virulence or modern science is able to control it almost at will.

CHICAGO.

Bacilli in Books Harmless.—Health Commissioner Reynolds finds no necessity for disinfecting public library books, his opinion being based upon investigations made by Dr. Adolph which were selected by the librarian, and by Dr. Reynolds from the library shelves. In reporting the results, Dr. Reynolds says that no disease-producing bacteria were found on any of the volumes, only the ordinary bacteria usually to be found upon the human skin and upon everything handled by human hands.

Surgeons Must Report Deaths.—A bill introduced in the General Assembly of Illinois, March 7th, provides that it shall be the duty of every surgeon who performs a surgical operation, and of every physician who advises and arranges for the same, after which death results within thirty days, to report the same to the coroner of the county within twenty-four hours. It shall be the duty of the coroner to call a competent physician, who has had no previous connection with the case, to make a thorough investigation of all the circumstances before the coroner's jury and report the same as the statute provides in other cases. Violation of the provisions is made a misdemeanor punishable by a fine of $500 or thirty days' imprisonment.

Presumption of Miscarriage from Accident.—The Appellate Court of Illinois, First District, holds in Strehmann *vs.* the City of Chicago that the fact of a miscarriage within two months after an accident, coupled with the evidence of the woman's physician, that the accident, as described by her, might have caused the miscarriage, and no other cause having been proved, it would be a reasonable inference that the accident caused the miscarriage. Certainly, it says, it would be a question for the jury, on all the evidence, whether the accident was the efficient cause of the miscarriage. It holds that it was calculated to mislead the jury for the trial court by an instruction to single out one fact in evidence, namely, the birth of the still-born child, not stating other facts in evidence, and inform the jury that such fact considered alone did not tend to prove that the accident was the proximate cause of it.

Splenomegaly Primitive or Splenic Anemia.—At a meeting of the Chicago Pathological Society, held March 11th, Dr. Maximilian Herzog read a paper on this subject, which was based upon a study of the literature of the subject and upon two cases on which Dr. M. L. Harris had performed a splenectomy, both of which recovered. After the removal of the spleen, one of the cases in particular was studied carefully. Before the operation there had been present in this case a marked diminution of the erythrocytes, a low color-index, and an absolute and relative reduction in the number of the leucocytes. The blood had improved very much after splenectomy and there had developed a marked eosinophilia (14-11 per cent.). An examination of the spleens removed, weighing respectively 1.055 and 600 grams, showed a marked endothelial proliferation with enlargement of the blood lymph-spaces

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is, for instance, found in typhoid fever. Considering the fact that the blood condition had always improved in all cases of splenomegaly in which splenectomy had been performed, provided the patient did not die from the operation, it appeared conclusive that the changes in the spleen must be looked upon as the primary factor in the disease. From an examination of the two cases, as well as from a study of the literature, it appears that no evidence can be found that lymphatic endothelia destroy the blood by directly taking up blood-corpuscles. Herzog therefore advances the theory that lymphatic endothelia of the spleen and of lymph-glands secrete an erythrolytic ferment and in this manner destroy old and worthless blood-corpuscles. In splenomegaly there is an enormous endothelial proliferation, and probably in consequence a largely-increased production of the erythrolytic ferment, which, when present in such a large amount, destroys many healthy blood-corpuscles. If the spleen is removed, the source of the increased production of the erythrolytic enzyme is removed, and the blood improves rapidly and permanently.

A Case of Vesico-Sigmoidostomy.—Dr. E. J. Senn, at the Chicago Medical Society, March 13th, presented a very interesting case of exstrophy of the bladder in a young man, twenty years of age, upon whom he performed a vesico-sigmoidostomy. At the same meeting, Dr. E. W. Andrews showed a specimen obtained from a Bottini operation which was performed by him about a year ago. He has done the Bottini operation sixteen times, with one death. Dr. F. Kreissl exhibited a suprapubic drainage-tube of his own design. He claimed that by using this tube drainage of the bladder through the suprapubic fistula is so thorough that leakage of the urine alongside of the tube is almost completely obviated. He showed a specimen from the genito-urinary tract in a case of tetanus following the removal of a tumor by the suprapubic route. He also showed a specimen obtained from the genito-urinary tract after a Bottini operation.

Dr. Daniel N. Eisendrath presented an interesting case of inoculation tuberculosis from cattle-hide with multiple foci on the arm. He also reported a case of renal and vesical calculus with treatment of post-operative anuria, and detailed the history of an instructive case of perforation of the cecum with pericecal abscess..

Gangrene of the Appendix Simulating Infection following Labor.—Dr. Denslow Lewis reported the case of an English woman, thirty years of age, the mother of two children, aged three and five years respectively. She was delivered, after a normal labor, of her third child. After narrating the case in detail, he spoke of the relationship of appendicitis to different gynecological conditions. Twenty-three times he has in 1888 by abdominal incision and counter-drainage by the vagina, the attending physicians as well as himself were surprised to find a relationship to the appendix which resulted in a fecal fistula that finally healed. Reported cases seem to sustain the assertion that invasion may be from the appendix to tube or ovary or from the uterine adnexa to the appendix. These possibilities are understood and looked for and the various sequelæ have been described. He has had no experience with appendicitis during labor and the case reported is his first occurring early in the puerperium. It is not unlikely that appendicitis often exists at these times and is usually overlooked. Pregnancy, the puerperium and even the early stages of labor, far from constituting a contra-indication for operative interference, show an additional danger from which the patient can only be safeguarded by a prompt operation.

GENERAL.

Southern Notes.—Atlanta, Ga., opened a new Hospital for Incurables, on March 2d. It has ten beds and is under the supervision of Dr. J. M. Brawner.—The Woman's Medical College of Baltimore celebrated the twentieth anniversary of its founding February 22d.—The Memphis Hospital and Medical College, Memphis, Tenn., will be started next week and it is hoped that it will be ready for occupancy next November.—Dr. F. E. Daniel has become editor of the *Texas Medical Journal, vice* Dr. S. E. Hudson, resigned.—Kentucky State Medical Society will hold its forty-sixth annual session in Louisville, May 22, 23, 24, 1901; Chairman, Dr. L. Frank, Louisville.—Louisiana State Medical Society holds its next annual meeting at Tulasne Medical College buildings, April 18, 19, 20, 1901; Secretary, Dr. A. G. Friedrichs.

Cocaine Legislation.—The Tennessee Legislature passed a bill last month prohibiting the sale or presentation of cocaine save on a physician's prescription, and providing for a penalty of from $100 to $500 upon conviction of violation. A similar measure, though extended to the sale of morphine, opium, and chloral, is before the Legislature of Missouri. A similar measure in Georgia was killed through ignorance of its purpose on the part of a few legislators. The fate of a like Alabama measure is unknown. It was reported some time ago that the city ordinance in Knoxville, Tenn., restricting the sale of cocaine to physicians' prescriptions, has been partially defeated by the action of certain physicians in selling prescriptions to habitués; and it was declared that some step would be taken to remedy this.

Smallpox in United States.—Ohio had the largest number of smallpox cases last year, 1,666; Tennessee coming next with 1,393, and Minnesota third with 875.

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Royal Red Cross for Nurse.—The Royal Red Cross, which King Edward VII. has just conferred upon Mme. de Ferrières, Superintendent of the French Hospital at Johannesburg, was instituted in 1883 as a recognition of services rendered by women in connection with the nursing of the sick and wounded of the British army and navy. Among the first upon whom it was bestowed was Miss Nightingale. Countess Roberts is also entitled to wear it. The cross is a handsome ornament, being of crimson enamel, edged with gold, and bearing on the arms the words "Faith, Hope, Charity," and in the center Queen Victoria's effigy. Queen Alexandra is, of course, a member of the order.

Congress against Alcoholism.—The State Department is informed that an international congress against alcoholism will be held in Vienna from the 9th to the 14th of April next. The United States Government is invited to send delegates. The program includes discussions upon the effects of alcohol; diseases, heredity, degeneration, and criminality caused by its use; and means to combat alcoholism, both of legal and private initiative. Partizans of the moderate use of liquors, as well as the adherents of total abstinence, are admitted to the congress.

Medical Students in Berlin.—At the University of Berlin this winter there were 1,312 students of medicine.

American Laryngological Society.—The Council has decided that the seventh annual meeting of the American Laryngological, Rhinological and Otological Society shall be held at the New York Academy of Medicine in the City of New York May 30, 31, and June 1, 1901.

Gift to New Montclair Hospital.—Joseph Van Vleck, a wealthy citizen of Montclair, has offered to give $8,000 toward the erection of a new hospital, provided the Board of Governors raises $42,000.

Pennsylvania and the Cocaine and Morphine Evils.—The demand from lay interests which has been made in Pennsylvania during recent years that pharmacists be prevented from selling narcotics to habitués has resulted in the following clause in a bill which has been introduced in the Legislature: "No person shall sell or furnish morphine, or its salts; cocaine, or its salts; opium, or any preparation containing 10 per cent. or more thereof; or chloral hydrate, to any person known to be addicted to the habitual use of any of these articles as a narcotic, nor to any person when written notice has been given to the proprietor or manager of the store or pharmacy that such person is addicted to the habitual use of any such articles as narcotics."

In commenting on this bill the *Chicago Bulletin of Pharmacy* says: We deem this an admirable solution of the cocaine and morphine evils—so far, that is, as the law may furnish correction. As we said last month, 'even with such a law the pharmacist should not forget that considerable responsibility yet remained to him, and that his duty would be plain to save the unfortunates from themselves so far as he found it possible so to do.' But to discuss the question of a legal remedy alone, such a provision as the one under consideration seems to us much better calculated to control the evil than any which has been previously suggested or applied. The plan adopted in most of the southern cities and States, where the evil has been particularly vicious and rampant, and where the question of a remedy has become one of vital importance, is that of prohibiting the sale of narcotics save upon a physician's prescription. But this has not been found to succeed well in practice. As a recent correspondent has said, 'since there is no law to prevent the refilling of prescriptions, one prescription may be made to do service for the whole community.' Moreover, there are physicians in every large city who, for a consideration, are willing to give prescriptions *ad libitum*, in which case the pharmacist, whether inclined to check the evil or not, has no recourse but to fill the order. The Pennsylvania method furnishes within itself a self-acting agency. The enforcement of the law prohibiting the sale of narcotics is largely given to any member of the victim's family. A wife, mother, or son who desires to prevent a habitué from securing that which not only ruins his own life, but largely the lives also of those who are dependent upon him, has the means of protection at hand."

St. Louis Medical Society of Missouri.—At its last regular meeting, March 16th, the following papers were read: "Our Present Knowledge of Hydrophobia," by Dr. Carl Fish; "Recent Modification of Pasteur Treatment," by Dr. John C. Morfitt.

Adirondack Cottage Sanitarium.—The last annual report by the Medical Director of this excellent charity, Dr. E. L. Trudeau, is encouraging for the friends of this institution. The running expenses for the year have been fully met by the contributions and permanent increase has been made to the buildings and the various funds, notably the Endowment Fund which has had about $20,000 added to it this year. The sum of $130,000 is wanted in order to make a fund, the interest of which will adequately provide the running expenses. The medical report is promising. There were 262 patients treated, 170 being new patients; of these 55 were apparently cured, in 79 the disease was arrested, 25 were improved and 11 were unimproved, and one died. Since 1884, when the Sanitarium was founded, the histories of as many patients as possible have been followed. Of the 1,176 patients discharged during the fifteen years, one-half were living, one-half of these being perfectly well.

Obituary.—Dr. Paul von Seydiwitz, a surgeon, scientist and newspaper man, died in

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born in 1821 of a distinguished family. He graduated from the University of Heidelberg, but left Germany in 1848, being involved in the revolution of that year, and moved to Paris. He remained at Paris ten years. He spent some time in Russia, where he pursued his medical studies. From Paris he moved to London, where he was a fellow of the Royal College of Surgeons. After many wanderings he went to New Orleans in 1884 and had lived there ever since, corresponding for various European papers, writing on scientific topics and practising his profession. He was appointed expert on infectious and contagious diseases by the Louisiana Board of Health, represented the United States Marine Hospital Service in the Jacksonville yellow-fever epidemic of 1888 and was also sent to Venezuela and Central American to investigate epidemic. During the late Spanish-American War he served as assistant surgeon on several occasions.

Dr. Henry Mitchell Smith, of New York, died of pneumonia last week at Escondido, Cal., where he had been visiting. Dr. Smith was born in this city in 1835. He was a member of the American Institute of Homœopathy and Secretary and Treasurer of the Hahnemann Monument Fund.

Dr. John Sargent, the oldest physician in Jefferson County, N. Y., is dead at Woodville, aged eighty-seven years.

Dr. James W. H. Lovejoy, aged seventy-six years, died at his home in Washington, March 19th. Dr. Lovejoy was chairman of the executive committee of the Children's Hospital, and also served several terms as president of the Medical Society of the District. He was one of the incorporators of Garfield Hospital, and had been president of the faculty of the Georgetown University Medical School as well as professor of practice of medicine.

Old Dominion Hospital.—This hospital, connected with the Medical College of Virginia, at Richmond, is about to be enlarged so as to accommodate forty more patients.

University College of Medicine Hospital.—This building, adjoining the Virginia Hospital, Richmond, is nearly completed. It will have a capacity of some sixty or more patients. Its clinical amphitheater is built on the most approved plans, having all the convenient arrangements for demonstrations, etc.

Tri-State Medical Association of the Carolinas and Virginia.—The third annual session of this body was held in one of the halls of the Jefferson Hotel, February 26 and 27, 1901, and was a marked success in every respect. The President, Dr. Charles W. Kollock, of Charleston, S. C., presided with ability, and Dr. J. N. Upshur, Richmond, Secretary, was untiring in his duties.

In his address, the President, Dr. Kolloch, favored the abolition of the delivery of a that a high standard of educational requirement should be required of both teacher and pupil, and that particular attention should be paid to the ethical instruction received by the pupil, while the standard is maintained by the teacher. The methods used in the selection of college faculties are often lax—very frequently the selection becoming more or less of a family affair. When a vacancy occurs, it should be widely advertised, and the candidates be made to undergo a most thorough test. Then men less pretentious, though more meritorious, could be secured—men whose fault is lack of pull.

The fourth annual session will be held in 1902, at Asheville, N. C. Hereafter there will be a Chairman in each of the three States, for the Sections on Medicine, Surgery, Gynecology and Obstetrics.

The following officers were unanimously elected for the incoming term: President, Dr. John N. Upshur, Richmond, Va.; Vice-Presidents, Drs. J. W. Long, Salisbury, N. C.; S. C. Baker, Sumter, S. C.; Hugh M. Taylor, Richmond, Va.; Secretary and Treasurer, Dr. H. A. Royster, Raleigh, N. C. To fill vacancies in the Executive Committee: South Carolina—Drs. W. P. Timbermann, of Timbermann, S. C., three years, and Manning Simons, Charleston, one year; North Carolina—Dr. J. W. Marsh, Fayette, two years; Virginia—Drs. Southgate Leigh, Norfolk, two years, and J. S. Wellford, Richmond, three years. Dr. J. C. Hemmeter, Baltimore, was elected Honorary Member. Subject Selected for Special Discussion during Session of February, 1902, Tuberculosis—Dr. J. A. Burroughs, Asheville, N. C., Leader.

CORRESPONDENCE.

The Giving of Commissions and Division of Fees.

To the Editor of the MEDICAL NEWS:

DEAR SIR: In the MEDICAL NEWS of February 9th I was much interested in a discussion by members of the Chicago Medical Society relative to the "Giving of Commissions and Division of Fees."

I should like to get my finger in your buttonhole and burden you with my views on the subject. The line of work I endeavor to follow obliges frequent consideration of the subject under discussion and, being personally acquainted with four members of the Committee of Five to whom the resolutions were referred, kindles in me a spirit to say a word in defense of the surgeon and at the same time something in behalf of the general practitioner. In the first place, no conscientious physician, be he surgeon or general practitioner, desires in any way to lessen the dignity of the profession.

That being the case the question of com-

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missions at once disappears and leaves only for consideration the one important subject of "Division of Fees." "The laborer is worthy of his hire." If the surgeon's work is such as demands unusual skill and an extended knowledge of pathology and technic, acquired only after years of seemingly endless work, expense, sacrifice and self-denial then his remuneration should be in proportion to the value of his service and the financial ability of his patient. Every surgeon who performs a major operation, be it from three seconds to three hours in duration, takes upon his shoulders the responsibility of a human life or at least an individual's future welfare and happiness.

These cannot be reckoned in dollars and cents.

When a client consults his attorney relative to the preservation of a piece of property the title of which is rightfully vested in him, but which, owing to a legal technicality, is liable to be swallowed up by some big corporation, the first question the lawyer asks is: "What is the value of this property?"

On being told it is worth from four thousand to five thousand dollars the lawyer, if he is "up to date," agrees to undertake the work and go "halves." Now this unfortunate client well knows that he is "up against it," but keeps a stiff upper lip and agrees to the proposition. The same man if he were asked two thousand or twenty-five hundred dollars to save his boy in an attack of appendicitis would, in all probability, roar even louder than the editor of the *Chicago Times-Herald* in commenting on the size of a surgical fee for work, the gravity and importance of which he apparently has not the conception of an idea.

And it is ever thus. The man who poses as the great disseminator of truth to the benighted layman will invariably expose the dwarfed proportions of his microscopic soul by burdening the world with his exalted opinion on a subject he is as unqualified to discuss as the veriest ragamuffin that runs the street.

The vast majority of such editors compliment the talented attorneys on the enormous fees they command and never lose an opportunity to "lambaste" and bemean a reputable, conscientious physician.

I have operated on something over one hundred cases of appendicitis and, although that is a small number compared with what surgeons in large cities encounter, I feel at liberty to speak to the point on the subject.

It is but fair that the family practitioner should receive full compensation for his services in proportion to the rôle he fills. If he assists in the operation and bears half the responsibility, he should receive one-half the fee. If he makes the diagnosis and outlines the course of procedure, but assumes no responsibility in the operation, he should be remunerated accordingly and whatever amount he receives (I advocate a liberal one) should be paid him by the patient as it has nothing whatever to do with the special fee for the operation.

This is with equal justice to patient, family practitioner and surgeon, and should not unbalance or disturb the harmony and mutual friendship existing among them. In conducting my work such has been my practice and so far it has proven satisfactory to all concerned.

If a physician treats a family for twenty years and does not receive twenty-five hundred dollars he has, in all probability, not been called upon to tender very much service, or else his service has not been of much value and he is conscientious enough to charge accordingly.

The fact that he has, or has not, realized a good yearly income from a certain family cuts no figure in determining the amount of a surgical fee for operation on one of its members.

ORVILLE O. WITHERBEE.

612 Frost Building, Los Angles, Cal., February 24, 1901.

OUR LONDON LETTER.

[From Our Special Correspondent.]

LONDON, March 9, 1901.

THE LOSSES FROM SICKNESS OF ARMY IN SOUTH AFRICA—THE LIVERPOOL SCHOOL OF TROPICAL MEDICINE—DEATH OF DR. MYERS OF THE YELLOW FEVER EXPEDITION TO BRAZIL—A CHAIR OF TROPICAL MEDICINE TO BE FOUNDED TO HIS MEMORY IN UNIVERSITY COLLEGE, LIVERPOOL—SANITARY RULES FOR THE PREVENTION OF MALARIA—CONTAGION AS A FACTOR IN PROPAGATING TUBERCULOSIS—SMALLPOX IN GLASGOW—THE DISEASE CARRIED TO EDINBURGH—SANITARY PRECAUTIONS IN SCOTLAND—ELABORATE PRECAUTIONS IN LONDON AGAINST AN OUTBREAK OF PLAGUE.

A VERY interesting article on the losses in the South African War through sickness has been published in the *Daily News* by a statistician who has made a careful study of the official figures. It appears that the army of occupation probably never exceeded 220,000 men and that at present it is a dwindling force (shortly to be reinforced) of about 200,000 men. For the four weeks ending April 28th the deaths from disease show a weekly average of 188. In a force of 200,000 this represents a death-rate of .094 per cent. or of nearly 49 per 1,000 per annum. During May and June the death-rate rose to 71 and 63 per 1,000 respectively. For the three months 3,007 men out of 200,000 died of disease, yielding an annual death-rate of 60 per 1,000. The death-rate of the Army at home is between 4 and 5 per 1,000. Turning to the last six months of the war, the figures, if less acute, are hardly less disquieting seeing that no crisis occurred. During the half year ending January 31st last 2,816 men have died of disease giving a rate of 28 per 1,000 per annum. In India, with a climate obnoxious to Europeans, the death-rate of the British troops is little

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more than half this figure. The last four months show an increasing death-rate, thus October, 22 per 1,000; November and December, 27; January, 36. The losses of the army from sickness which lead to the invaliding home of the men is much greater than those from death. In April, May, and June the loss through sickness was 3,000 deaths and 12,000 invalids, or a loss of strength at the rate of 300 per 1,000 per annum. In the five months, April to August, there were 4,000 deaths from sickness and 30,000 men were invalided home; in other words, the Army was losing at the rate of 70,000 men on a basis of 200,000. Turning to the last six months 2,816 men have died of disease and 13,090 have been invalided home—a total loss at the rate of 159 per 1,000 per annum.

An influential meeting has been held at the Town Hall in connection with the Liverpool School of Tropical Medicine "to consider the subject of health and sanitation in West Africa and the Tropics in the light of the researches of the three malaria expeditions of the School of Medicine. On several occasions in my letters I have referred to these expeditions which the extraordinary enterprise this only recently-established school has organized. The Chairman, Mr. A. L. Jones, referred in feeling terms to the death of Dr. Walton Myers, who with Dr. Durham volunteered to go almost without remuneration on the expedition to Brazil. Both contracted yellow fever after making a necropsy in a case of the disease. Dr. Myers succumbed. He was only twenty-eight and had taken high honors and gave great promise. Owing to the action of the shipowners and others a Chair of Tropical Medicine will be endowed in University College to be called the Walter Myers Chair. Sir William Church, President of the Royal College of Physicians, said that when he was present two years ago at the inaugural meeting of the School he was surprised at the enthusiasm with which the movement was taken up, alike by members of the medical profession and by leading commercial men in Liverpool, Manchester and other centers. Referring to malarious countries, he said it had been computed that the mere machinery of government cost more than double the ordinary amount—in other words it took two men to the work of one. If the mortality could be reduced one-half the volume of trade might be greatly increased. Many of the malarious countries were the richest on the globe. Therefore money spent in investigating their disease was beneficial both from a commercial and a humanitarian standpoint. Major Ross of mosquito fame described briefly the results of the expeditions. As to sanitary matters he said that the best water-supply was rain water. All other sources were contaminated by the natives. But during the dry season water-supply was a difficult question and well, spring and river water had to be used. As to European houses, those of Government officials were generally well situated, but those of the various trading companies were generally placed in bad positions—in low-lying districts close to swamps and the crowded huts of natives. After a visit of eight months, covering a large extent of Nigeria, the members of the expedition arrived at the following conclusions as to how malaria might be prevented: (1) Living apart from the natives at a distance of about half a mile. Native children to a surprising extent harbor the malarial parasite in their blood, and it is conveyed thence to Europeans living close by. European quarters are almost invariably surrounded by native huts; the nearer the quarters are the more unhealthy is the district. On the other hand, quarters situated at a distance from native huts are very healthy. (2) Surface drainage of the areas around European quarters. This measure without the previous one would not be efficient; combined with it the two together would ensure complete freedom from malaria in Europeans. He hoped some day to see tracts of West Africa reduced by careful sanitary regulation to the comparative condition of salubrity at present enjoyed by a tropical country which was once as unhealthy as the unhealthiest—India.

To the Feburary number of the *Polyclinic* the editor, Mr. Jonathan Hutchinson, has contributed an important article on Tuberculosis Problems. The doctrine of contagion is, he thinks, carried too far. He suspects that the bacilli are almost ubiquitous and possibly exist in a latent state in almost every individual. The fact that no local epidemics of phthisis are ever observed is opposed to the idea that contagion plays an important part, as is also the fact that no races or communities are known in which, irrespective of habits and occupations, the disease is rife. In a general way it may be said that the decadence of tuberculosis is in proportion to the prosperity of the nation. During the last half century England has witnessed a remarkable decline, and this although no special measures have been taken to prevent contagion. We have been prosperous, and meat, fat-foods, bread, milk, beer, and wine have been cheap. The repeal of the Corn Laws was the best means of legislation which could have been contrived for the diminution of consumption. The hastily-assumed association between intestinal tuberculosis in children and raw milk has been shown to be mistaken. Calves even when fed from tubeculous udders scarcely ever contract the disease.

Although the sanitary authorities of Glasgow profess to have got a grip on the smallpox outbreak, 19 fresh cases were reported yesterday and three deaths, making the death-roll 120 while the cases in hospital number 387. Thirty patients have been dischaged from

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in Edinburgh. The patient was a man who with another had tramped from Glasgow. A number of persons in contact with him have been put in quarantine. The Glasgow outbreak has caused great sanitary activity in Scotland, for that city has intimate relations with the rest of Scotland. Hospital accommodation is being provided and vaccination and revaccination are being offered free. In places near Glasgow, such as Paisley, special activity is shown. Lists of persons living in Glasgow and employed at Paisley have been prepared, so that they may be kept under observation.

The London County Council are taking elaborate precautions in view of the possibility of plague visiting London. Their Public Health Committee is authorized to expend, if necessary, a sum not exceeding $250,000 for precautionary measures. The following provisions are recommended as necessary: (1) Accommodation ready at the moment when required; (2) accommodation which can be got ready in a few hours; (3) accommodation which can be got ready in a few weeks. For the first separate quarters for "suspects" and "contacts" are being prepared in each of the four divisions of London to accommodate 212 persons. For the second purpose accommodation with be provided for another 200 persons, which will involve the immediate acquisition of additional premises at an estimated cost of $80,000. For the third purpose a scheme has been prepared for temporary buildings for 600 persons to be erected on land in the Council's possession at a cost of $90,000. These buildings will not be erected unless plague actually appears in London, but provisional contracts will be made and all necessary arrangements completed, so that in case of emergency the work can be begun without delay.

TRANSACTIONS OF FOREIGN SOCIETIES.

French.

APPENDICULAR HEMATEMESIS—FREQUENCY AND CAUSE OF CERTAIN APPENDICAL SYMPTOMS—HYDROCELE—MENINGITIS SECONDARY TO INFLUENZA—TYPHOID CONTAGION.

DIEULAFOY, at the Academie de Médecine, February 12, 1901, discussed hematemesis as a complication of appendicitis. He stated that it is not an extraordinary symptom, because he has himself noted six cases within one year and several writers have mentioned it in literature. The hematemesis is habitually preceded by true bilious vomiting, afflicts children as well as adults, recurs at rather short intervals, and usually ends in death. The quantity of blood ejected varies from 200 or 300 to 800 c.c., is usually fluid and red, but may be clotted and blackish. Patients who have been operated on too late are those who are attacked in this way. This complication is which is proved by the fact that these symptoms occur along with others of septicemia, as albuminuria, urobilinuria, moderate or severe jaundice, etc. The effect of this toxemia upon the gastric mucosa is the cause of the bleeding. Postmortem examination has showed small ulcers, situated chiefly at or near the pylorus, occurring singly or multiple. The conclusions are that appendicitis is a toxo-infectious disease which threatens the entire economy and the cure of which is dependent directly upon the time at which the operation is done. The earlier the better in all cases. Lucas-Championnière in discussing this condition at the meeting of February 19th, said that hematemesis after appendicitis operations is comparable to black vomit which so often appears after other severe laparotomies. While the gravity of the appendical hematemesis is admitted he differs in holding that it is curable, as has within his experience several times occurred with the aid of gastric lavage with alkaline fluids. The report of Dieulafoy tended to show the frequency of severe attacks of appendicitis and the essential gravity of this disease in itself, which seems at the present time to be increasing. If these conditions had existed in the past, it is difficult to see how their observation and record could have so entirely escaped so many competent practitioners. A parallel is offered by the fact that appendicitis has lately been reported as often complicating pregnancy. Pinard has recently seen it three times within one month, while the speaker during a past ten-year experience in midwifery did not find it once. He therefore holds that if appendicitis is not strictly a new disease it certainly differs materially from the typhlitis and perityphlitis of our forefathers. As supporting this view he quoted his own statistics. From 1882 to 1899 he opened thirty-four large right iliac fossa abscesses of appendical origin, of such nature and degree that only rapid incision, evacuation and drainage could be done. From 1899 to 1900 he had treated in the same manner nineteen parallel cases. If appendicitis were not augmenting in severity and since so many preventive operations are done, we should expect a vast decrease in the number of such abscess cases. If the same ratio had been maintained through the first-named period the total would have been one hundred and fifty-two cases. The later great augmentation seems to show an increased virulence, and probably depends upon the increasing causes of all intestinal infections. Setting aside those cases of appendicitis which seem to depend upon influenza, as was recently demonstrated by Faisans, the speaker pointed out the remarkable frequency of appendicitis among the meat-consuming nations as illustrated by the United States and Great Britain. In his own private practice most of his patients have been meat-eaters, inordinately or almost exclusively. In addition to this error in diet is the disfavor with which free catharsis is regarded.

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curative measure. The really curative treatment of appendicitis is strictly surgical.

ROBIN, in the discussion said that he has noticed the frequency of appendicitis among patients who have suffered more or less from gastric or intestinal dyspepsia, or both. The most common type he considers to be gastric hyperasthenia. As to the nefarious effects of certain forms of diet, he considers animal food as harmful and has found as high as twelve per cent. of nitrogenous matter in the feces of meat-eaters upon careful chemical analysis. He likewise considers carefully dietetics and the regulation of the bowels as very important. Lancereaux stated that he had recently cured a woman of appendicitis by purges, repeated in full doses on each of three successive days.

PEYROT, at the meeting of February 5th, read in the name of Milian and himself notes as to the pathogenesis of chronic hydrocele, teaching that it exists as a consequence of alterations in the tunica vaginalis, independent of any epididymo-orchitic lesions. In this sense a chronic hydrocele is perivisceritis, precisely as is the case in pericarditis, pleurisy and peritonitis, with which it is very often found in association. The cause of such chronic hydrocele should be upon the same basis as that of these other ordinary periviscerites. As in them, tuberculosis is not by any means to be considered the ruling etiological factor. Cardiopathies, nephrities, arteriosclerosis and such systemic disorders are rather the true causes or the associated conditions, beneath which in common lie general systemic infections, benign or malign, which may leave behind them some local chronic inflammation.

RENDU, at the Société Médicale des Hopitaux, February 1, 1901, communicated a case of cerebrospinal meningitis secondary to the grip. The child had for a few days complained of a nasopharyngitis and later was overtaken by pain and paresis of the lower extremities and absence of the patellar reflexes, Kernig's sign, stiffness of the neck, etc. These symptoms improved shortly under warm baths several times daily and the withdrawal by lumbar puncture of about twenty-five cubic centimeters of spinal fluid. The pains in the lower extremities and stiffness of the neck soon vanished, but the muscular weaknesses persisted. The explanation of this seems to be that the cerebral element probably disappeared altogether, while lesions of the cord gray-matter either lingered or were permanent, or the anterior nerve-roots were affected. Cultures from the cerebrospinal fluid persistently remained sterile.

TROSIER claimed that true contagion is not at the bottom of every case of enteric fever developing within the hospitals. For example he cited a woman in his own service who was attacked by the disease thirty hours after admission. In this instance it is likely that the disease was inoculated upon her by water, filtered

VINCENT in the discussion held that except by contagion there is no explanation for the spread of the disease among the nurses and attendants assigned to care for typhoid patients in such institutions and military prisons. The sequence of the infection seems to be, first, the hands, then the food, and, finally, the system. If the water were at fault, attendants elsewhere in the hospital would also be affected.

SOCIETY PROCEEDINGS.

CHICAGO PATHOLOGICAL SOCIETY.

Stated Meeting, Held February 11, 1901.

The President, Dr. L. Hektoen, in the Chair.

Osseous Stylo-hyoid arch.—Dr. Thomas R. Crowder described three cases. The stylo-hyoid arch is a constant structure in the higher vertebrates. In many, as the horse, cow and sheep, it is completely bony; in man it is largely ligamentous. Developmental defects with more or less ossification are not infrequently found, but complete bony arch is rare. The three cases presented were not recognized before death. The anomaly is to be looked upon as a developmental defect, and not as an ossification of the stylo-hyoid ligament once developed in the normal way. It has no clinical significance beyond the possibility of fracture—an unlikely accident.

Blastomycetic Dermatitis.—Dr. F. G. Harris reported a case of blastomycetic dermatitis in a woman seventy-eight years old. The growth was located on the gluteal region and commenced four years ago as a pimple, which became a roughened area of intense itching and later became apparently denuded. The growth was 11 centimeters long by about 6 centimeters wide, having an elevated border bearing flattened papillomatous outgrowths which overhung the floor, the latter being covered with villous-like epithelial projections interspersed with areas of ulceration. The entire growth was movable on the underlying tissues; there were no secondary growths on any part of the body, nor were there any evidences of syphilitic infection. Microscopic examination showed a hyperplasia of the *rete mucosum* which grew down into the corium in branching, coral-like projections. In these epithelial downgrowths were miliary abscesses containing the blastomycetic organisms which were present in groups of three or more. Many of them were in the process of budding. There were no cultures made from this case on account of the diagnosis not having been made clinically.

In the discussion of Dr. Harris' paper Dr. Lieberthal referred to a case recently observed, in which a provisional diagnosis of syphilis

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was made, where the blastomyces were found in sections. He still held to his original diagnosis.

H. T. Rickets said that the histology of blastomycetic dermatitis is a specific one and entirely different from that of tuberculosis and syphilis.

H. G. Anthony spoke of the points of difference between blastomycetic dermatitis and the syphilitic and tubercular lesions resembling it.

L. Loeb called attention to the fact that blastomycetic dermatitis had not been produced experimentally.

W. E. Coates compared blastomycetic dermatitis to certain diseases in plants. He considers the organisms observed in the skin lesions as spores of fungi.

F. G. Harris stated that his case was treated with iodides for three weeks without any improvement.

Carcinoma of Lungs.—Dr. Le Count demonstrated a diffuse secondary carcinoma confined to the lymph-channels of both lungs of a man who died from carcinoma of the stomach while in the service of Dr. Kramps at the St. Elizabeth Hospital; the condition was correctly diagnosed during life. At the necropsy, the usual large metastatic tumor nodules were found in the liver together with an extensive involvement of the peripancreatic, retroperitoneal, peribronchial and peritracheal lymph-glands; the adrenals were the seat of a very extensive carcinomatous growth; there were small tumors in the outer parts of both kidneys. The primary tumor from which all these metastatic growths arose was located near the pylorus and showed no features other than are often observed in gastric carcinomata. The lungs were alike in appearance; both possessed very extensive subpleural, linear, branching and tortuous carcinomatous growths in the lymph-channels as well as tumor masses in the lymph-channels of the deeper parts of the lungs. There were no nodular growths in the lungs, as are observed in consequence of the embolism of tumor-cells. The lungs were fresh, no microscopic examination having been made, but the gross appearance supported in all its details, the opinion that a retrograde lymphatic metastasis had occurred in these channels from the lymph-glands at the roots of the lungs.

Toxic Action of Formaldehyd.—Martin H. Fischer reported the results obtained from a study of the toxic effects of formaldehyd and its aqueous solution, formalin. The inhalation of formaldehyd is accompanied by marked inflammatory changes throughout the respiratory system. Dyspnea, depression of temperature, tachycardia, weak pulse, and vomiting follow the introduction of formalin into the stomach. Sudden death may result. The severity of the symptoms and the degree of histologic disturbance bear no relation to the strength or quantity of the injected formalin. The gastritis is characterized by intense congestion, necrosis and leucocytic infiltration. Intraperitoneal injections produce a fibrinohemorrhagic peritonitis of varying intensity according to the strength of the solution. The peritonitis following chronic formalin-poisoning produced by injecting small amounts of dilute formalin intraperitoneally is accompanied by great connective-tissue proliferation and a striking eosinophilia. Subcutaneous formalin injections produce marked exudation and leucocytic infiltration. The introduction of formalin into the conjunctival sac is followed by an iritis, which when a single drop of the concentrated chemical is used may be sufficient to permanently injure the eye.

In whatever way formalin is introduced into the body, certain systemic changes result. Degenerative changes and focal necroses are found in the liver and kidneys. The leucocytic infiltration following the introduction of formalin is characterized by the eosinophiles appearing first; these are followed by the other polynuclears; last of all appear the mononuclears. It is believed that differences in osmotic pressure are to be held accountable for the exudation. The death of the cell is accounted for in two ways, (1) by disturbances in osmotic pressure and (2) by a deleterious chemical action—probably the reducing power of formaldehyd.

NEW YORK COUNTY MEDICAL SOCIETY.

Stated Meeting, Held February 25, 1901.

The President, George B. Fowler, M.D., in the Chair.

Dangers of Syphilis.—Dr. Prince A. Morrow read a paper on the medical aspects of the social evil. He said that syphilis is worse than any foreign pest, although so much care is taken and so much money is spent on sanitary precautions to prevent the entrance of these diseases, while syphilis is allowed to go absolutely unguarded. It has been calculated that one-eighth of all the patients in hospitals are suffering from venereal disease or its consequences. We have no data on this question here in New York, because, unfortunately, they are considered shameful diseases, whose admission would, as the lawyers say, "degrade or incriminate" a patient and so the actual condition of the affairs with regard to their prevalence remains unknown. Syphilis is rather an urban, than a rural disease.

Prevalence of Gonorrhea.—With regard to gonorrhea its prevalence is well known. Neisser, the discoverer of the gonococcus, says that it is the most universally prevalent of contagious diseases with the single exception of measles. In cities in Europe where statistics are available it is said that more than one-half

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the population, or even in some cases more than three-fourths of the male population have, or have had, gonorrhea. With regard to syphilis, Fournier states that 15 to 23 per cent. of the patients under treatment in the general hospitals of Paris are suffering from syphilis or some of its sequelæ. As the hospitals are recruited from the various classes of the population of the city, he concludes that about one-seventh of the population of Paris is syphilitic. These figures probably apply to New York with equal force. Of dispensary patients about ten per cent. of the patients in an ordinary hospital are treated in the genito-urinary dispensary. Besides these a number of venereal cases are treated in the skin clinics, a number more in the gynecological clinics, and no insignificant number in the eye, ear, throat and nose clinics.

Army Venereal Statistics.—Cunningham stated some time ago that in British India, as the result of investigations made in 1885, it was found that 53.7 per cent. of invalided soldiers suffered from venereal diseases. About 30 per cent. of these suffered from syphilis. During one year there were over a million days of service lost as the result of venereal disease. Twenty-five per cent. of the soldiers who returned from India to England were syphilitic. It is to be hoped that our soldiers who come back from the Philippines will not bring the disease back with them in any such proportion as this. It may be stated that the British army statistics show a higher proportion of soldiers suffering from venereal disease than that of any other army. The reason is the neglect of precautions in the matter, because of the objection of the Anglo-Saxon mind has to acknowledging the danger of the social evil for the army.

Seriousness of Gonorrhea.—While formerly gonorrhea was thought to be a simple disease, it is now known to be very serious. The gonococcus has been found capable of affecting all the serous membranes. It readily attacks the inner or outer linings of the heart, or even the peritoneum. A large number of fatal complications have been reported of late years as the result of these gonococcic invasions. It is generally conceded that most salpingitis is gonorrheal and that many of the diseases of the uterus and the adnexa have the same etiology. Some of the Germans go so far as to say that 80 per cent. of gynecological affections are due to the gonococcus. Most of the children who lose their sight shortly after birth do so because of gonorrheal ophthalmia. This disease still continues to furnish a large contingent to blind asylums, and 10 to 20 per cent. of all the blind owe their affliction to gonorrheal infection. Formerly the number of such cases was even larger, running as high as 40 to 60 per cent. At the present moment there are in Germany, according to Neisser, 30,000 patients who are blind because of the gonococcus. Neisser is sure that many are saved by the Credé method and believes that this should be even more widely practised than it is at present. Gonorrhea has more to do with failure of the population to increase than has syphilis. At least 20 per cent. of sterile marriages are due to gonorrheal processes either in the husband or wife and 90 per cent. of the cases of azoospermia that occur owe their origin to gonorrheal affections of the epididymis.

Frequency of Syphilis.—Syphilis affects the general population much more than is thought. It has perhaps not increased in recent years, but its presence has been more insistently urged upon the medical man's attention, because he has learned that many affections, formerly thought to be unconnected with it, are really complications of the disease. Only a quarter of a century ago the main symptoms of syphilis that attracted attention were its cutaneous accidents. Now these are looked upon as entirely subsidiary. The important lesions of the disease are those that occur in the internal organs. Nervous, renal, hepatic, intestinal syphilis and syphilis of the bones—these are the affections that now rivet one's attention. In the first rank of tertiary symptoms of syphilis come undoubtedly the lesions of the brain and cord. Parasyphilitic diseases as they have been called, that is, affections of the nervous system apparently not directly connected with syphilis and yet occurring practically only in individuals who have had syphilis, have attracted a great deal of interest in recent years.

Syphilis Insontium.—It has been thought that the acquirement of syphilis meant guilt, but the feature of the disease is that it occurs with unfortunate frequency among those who are absolutely innocent. Often these patients are without the benefit of prompt treatment, because husbands from whom the disease is contracted are fearful that their victims should find out the real nature of the malady. Of 100 cases of syphilis in women in the St. Louis Hospital, Paris, Fournier found in 19 that the disease was due to conjugal infection. At St. Louis the proportion of questionable characters that come for treatment is larger than at most hospitals. Seventy per cent. of syphilis in women under treatment at the New York Hospital is due to conjugal infection. The disease spreads very easily in a household. Nurses contaminate children, children sometimes infect nurses. Mothers infect nursing children, the little ones are fondled by other members of the household and thus syphilis becomes spread throughout the family.

Syphilis and Medical Practitioners.—Surgeons and accoucheurs, genito-urinary specialists and even general practitioners are much more often the victim of innocent syphilis than is usually known. Dr. Morrow has seen more than fifty cases in medical men in which syphilis was innocently contracted while in the pursuit of their profession.

Hereditary Syphilis.—Syphilis is the disease which is most transmitted by heredity. While the hereditary character of most other diseases

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has been limited, hereditary syphilis has become even more significant. Sixty to 80 per cent. of stillborn children owe their premature death to syphilis. Most of the children born during the active stage of syphilis in the parents suffer very severely from the ravages of the disease which they inherit. Rickets is almost exclusively syphilitic in its origin.

Significance of Venereal Diseases.—It is evident then that venereal diseases are of immense social significance, yet no attempt is made to limit their spread. In many cases it is evident that venereal disease owes its spread to almost wilful negligence; at times apparently deliberate malice. At the present moment the extermination of contagious disease is the watchword of the sanitarians. Why, then, should venereal diseases be ignored? Not a single city in this country has regulations for the prevention of the spread of venereal disease. Is it that such regulations are beyond the sphere of municipal authorities? Syphilis is twenty times more contagious than tuberculosis and almost as severe in its ravages. A sad feature of venereal contagion is that it is mostly the young and immature who are affected by it—women of eighteen to twenty, men of twenty to twenty-five. Their lives are practically ruined by a thoughtless act under the stress of temptation at the moment when they are most in need of protection.

Prostitution as a Cause.—There is no doubt that prostitution is the *fons et origo* of venereal diseases. Can prostitution be suppressed? It is a Utopian idea to think that prostitution can be exterminated. It has existed in all ages; it is not an indispensable evil, but it is an inevitable one. Our present laws take a certain amount of cognizance of it. They send the brothel-keeper to prison. They punish street solicitation, but they go no farther. Our laws acknowledge the existence of the evil, but do not attempt to regulate it. Legal regulation of prostitution exists in France, Germany, and Austro-Hungary. It has been recently reëstablished in Italy, and, in a certain limited way, it existed in England and Norway for over twenty years, between 1860 and 1890. The method of regulation adopted is by the registration of prostitutes who are legally required to be examined by a medical man at regular intervals and who are confined in the hospital whenever they suffer from a contagious disease. This is evidently an attempt to hygienize an insalubrious occupation. The principle on which the regulation is founded would seem to be the same as that which forbids the selling of bad wares. The trouble, of course, with any system of regulation is that clandestine prostitution continues and unless most stringent measures are instituted, the number of unexamined prostitutes becomes larger than those who are under the law. In Paris, for instance, the number of legally-constituted houses of prostitution has come down from 250 to less than 40 during the last twenty-five years. In Marseilles the number has become reduced from 120 to 19; In Bordeaux, from 60 to 18. The amount of clandestine prostitution has increased in at least the ration that legalized vice has decreased.

Increased Danger.—Where legal regulation of prostitution exists, but is not properly enforced, the danger of the spread of venereal disease becomes greater. The vice that flaunts itself in music- and dance-halls is less under control and more dangerous than open prostitution. One difficulty with all present methods of regulation is that only one element in the spread of venereal disease, the female, is brought under the influence of the law. The man also should be submitted to medical examination. Another difficulty with the law is in its application. When the police have discretionary power this readily becomes a means of blackmail and persecution. The serious objection to legal regulation of prostitution is that it proves a provocation to vice. It removes one of the deterrent features by lessening the fear of disease. The hygienist and the moralist should work together. So far they have seemed to be working at cross-purposes.

Vice Crusades.—The spasmodic attacks of virtue in a community that lead to harsh measures against the vicious classes often do more harm than good. The efforts of the reform administration in this city five or six years ago simply drove vice from its usual haunts and scattered it broadcast throughout the city. The volume of vice was not diminished; it was only diverted from its usual channels. True reform must not come simply from effort at repression, but from consideration of the different phases of the question and an endeavor to provide remedies for many concomitant evils. Homes for fallen women must be founded and encouraged in order to give these people a chance to rise from their present condition. The age of consent in women must be raised by law so that the present recruits to the ranks of prostitution, as the result of early seduction of young girls, shall cease. The purveyors of vice who tempt young women into taking up a life of prostitution must be punished severely and must be hunted down without compunction. Dance-halls must be suppressed when of bad character, or thoroughly regulated when it does not seem that their only object is the encouragement of vice, or the providing of a place of assignation. Even with all this entire reformation will not come. Regulation of the evil that is left will be necessary. Public opinion in this country will not permit the licensing of vice, as it is called. The French system was tried at St. Louis in 1872, but it lasted for but one year and then was swept away by the combined efforts of all the religious people of the State.

Hospitals and Venereal Disease.—Nothing could very well be more important for the prevention of the spread of disease than the provision of hospital accommodation for those affected by venereal disease so that they may remain in the hospital until such time as their disease is no longer contagious. Our accommodations, however, in the hospitals of large cities

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of New York for one in 2,000 of the prostitutes who are known to be in the city. Altogether there are just 26 beds in which syphilitic women can be treated. These are in the City Hospital, for no other hospital in the city will receive such patients. As the result of this discouraging state of affairs, because of false notions of delicacy and morality, not one in ten of those affected by syphilis are properly treated. Provision for the treatment of syphilitic men is scarcely better. There are 56 beds for the treatment of male patients in the venereal wards of the City Hospital. In addition to this there are a few in the Metropolitan Hospital. The plea that syphilis is refused because of its contagiousness is only a pretext. Any hospital can provide against the possible contagiousness of the disease and that without very much trouble.

Venereal Wards.—Every hospital in the city should provide free beds for the treatment of venereal patients. This would do more to supress the source of the contagion than any other possible measure that can be applied at the present time. Patients suffering from venereal diseases are reasonably anxious to be well treated, but often have neither the time nor the money. In the night class at the New York hospital which is opened for surgical cases, but which receives venereal diseases, 70 per cent. of the patients received for treatment are suffering from venereal diseases. Dispensaries should be established in quarters of the city where patients can easily reach them and they should be opened at hours when patients do not have to lose their work in order to attend them.

Avoidance of Infection.—All possible sources of infection should be eliminated as far as possible. Chancres should be excised. Mucous patches in the mouth should be cauterized, acid nitrate being the best remedy to employ. Patients should be instructed as to the possibilities of their spreading contagion. Often when the cutaneous lesions disappear, patients think themselves cured. It is impossible fully to instruct patients in these matters and a printed slip of instructions should be handed to each patient. These slips should contain information as to the necessity for syphilitic patients not to use towels and sponges that are liable to be used by others and should tell them of the danger of spreading the diseases through table articles, pipes, or anything that has been in their mouths. The danger of conveying their disease by inheritance should also be set before them.

Medical Knowledge.—In order properly to combat the further spread of venereal disease medical men should have more knowledge on this subject. The profession must take its stand before the world as the exponent of moral as well as physical health. It must be well understood that medical men are decidedly of the opinion that continence is not incompatible with health, that harlotry is no

Statistics Worthless.—Dr. Frederic Sturgis said in discussing the paper that this subject has already been thrashed out many times. Medical men have often said that restriction of prostitution and regulation of the evil are needed, and we have all said "Amen, amen." Nothing, however, has come of the discussion and this one will probably have as little effect as any of the others. It is claimed that venereal diseases produce much more fatality than they did years ago, but there are those who doubt this claim. Of late insurance companies have been taking more care in the acceptance of life insurance on individuals who have had venereal disease and there has been serious question of putting such risks into a class of sub-standard lives. It is probable, however, that alcoholism has a great deal to do with the fatality supposed to be due to venereal disease. The alcoholic factor is more important than the venereal one. Fallen women seem to suffer very little in health from the ravages of venereal disease. It is a well-known tradition among them that if they leave "the bottle" alone they have good health. Owing to the neglect of the alcoholic factor all present statistics as to the fatality of venereal diseases are worthless.

Duration of Syphilitic Contagion.—It is important to know how long syphilis is contagious. It is probable that after the first twelve months of the disease its contagiousness practically disappears. This is a rule, however, which admits of many exceptions. In any given case no assurance can be given, until a longer period than twelve months has elapsed. There is no doubt at all that if a prophylaxis for smallpox exists there should be one also for greatpox. Surveillance is possible. There have been other experiences in this country other than that at St. Louis with the legal regulation of prostitutes. Nashville and Louisville also enforced such measures for a while and with some success. Public opinion was so much opposed to it, however, that the medical examination became a farce, the medical visitor merely asking whether all were well and then being invited to sit down to a bottle of wine. The system of regulation worked very well in St. Louis for a while. Women of the streets became themselves the enforcers of the law for those who attempted to avoid its burdens. It might seem a surprising thing to find that New York should have such poor accommodation for syphilitic patients, but there are so many disgraces attached to New York hospitals that this is not surprising to those who know something of the conditions.

Increase of Syphilis.—Dr. Charles Warenne Allen said in discussion that several years ago he suggested, as one of the best measures for lessening the social evil and avoiding its

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There seems no reason to doubt that here in New York syphilis is on the increase. Dr. Allen gives figures from the Good Samaritan Genito-Urinary Dispensary. In 1887, 27,000 patients were treated, of whom 327 suffered from venereal diseases; in 1888, 38,000, 635 venereal; in 1889, 62,000, 2,000 venereal; in 1890, 73,000, 2,300 venereal; in 1895, 90,000, 2,700 venereal; in 1900, 86,000 and over 3,000 venereal. The speaker reported a case in which family infection had taken place from a nurse. The nurse conveyed the disease to the child, the child to the mother, the mother to other children and finally to the father. Five cases of syphilis resulted from the introduction of a syphilitic nurse into the family. It is eminently desirable that in a hospital, patients, and especially women patients, should be retained until they have passed their contagious stage. One difficulty with the present condition of affairs as regards syphilis is the objection to the word itself. The disease could be talked about much more freely, and precious information with regard to it conveyed, if it were to be called by some other name. Dr. Allen suggested some years ago the use of the word lues. The important thing for the prevention of the spread of venereal disease is the wide dissemination of knowledge with regard to the subject.

Failure of Medical Agreement.—Mr. William H. Baldwin, Jr., Chairman of the Committee of Fifteen, for the Suppression of Vice in New York City, was then asked to take part in the discussion. He said that he had come to be instructed and not to teach. It is evident after this evening's discussion that medical men are not agreed among themselves as to the significance and importance of venereal diseases. There is among the general public a great desire for knowledge on these subjects, because it is hoped to improve present physical conditions. Every one, including such as may not themselves be strictly moral, is desirous of bettering the present ethical condition. This cannot be done, however, unless there is an agreement as to the proper means to be adopted for this purpose. The International Conference on Venereal Diseases at Brussels a year ago agreed that regulation of prostitution was ineffective and inexpedient. There it was decided that what was best was a spread of knowledge on these subjects among the people. Doctors must enlighten the general public on subjects that are now deliberately kept in obscurity. This must be done in a healthy-minded way. At present when vice is driven from its favorite haunts by ill-advised restrictive measures, it betakes itself to the hitherto morally-clean parts of the city. The tenement-houses particularly are apt to suffer and the influence of bad example in crowded quarters is intolerably depraving. from their earliest years. This must not be allowed. Vice tends to particular localities. Let it be kept there. A prominent minister of the gospel said not long ago that to confine these people to a particular locality was to make a little hell on earth, which would be better than to have a big hell throughout the whole city.

Vice Regulation at Present.—Mr. James B. Reynolds, the head worker of the University Settlement, said that his experience for the last two years in New York has been in the heart of the "red light district." It has been said in this discussion that the public opinion of English-speaking people will not permit police regulation of prostitution! In New York, however, there is at the present moment more regulation of prostitutes than there is in Paris. The tax imposed on fallen women is heavier than it is in Paris and it is better collected. It is a fiction to suppose that these women are not known to the police. If the public has tolerated this, why will it not tolerate better directed legal regulation? For better, for worse, we are launched on reform and we must go on. It has also been said this evening that nothing can be done and that the present discussion will prove as futile as have so many others. The heritage which the Twentieth Century has received from the Nineteenth, however, is this: all things, even human action, come under the name of Science. Sociology and its development in a practical way will give us the remedy. Already light is being thrown on a great many subjects in the relation of man to man that were supposed to be beyond the range or the help of Science. The difficult question of the social evil will be solved as have the others.

BOOK REVIEWS.

UTERINE TUMORS, THEIR PATHOLOGY AND TREATMENT. By W. ROGER WILLIAMS, Fellow of the Royal College of Surgeons, London. William Wood & Company, New York, 1901.

THOSE who know Dr. Roger Williams' book on cancer of the uterus will be sure to expect an interesting, practical and thoroughly scientific book on the subject of uterine tumors. They will not be disappointed. Dr. Williams in the Preface states that, in his opinion, the true task for medical authors of the Twentieth Century must be the generalization and reduction to order of the vast masses of chaotic facts which constitute medical law. To this end nothing will be more conducive than the writing of reliable monographs. The author has fulfilled very well this expressed purpose.

Information of the most varied kind, treating of all branches of the subject of tumors, will be

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record tumor is a cystic myoma removed by Severanu of Bucharest, which weighed 195 pounds. The abdominal distention in the case was enormous, measuring six feet at the level of the umbilicus. The question of the origin of malignant from myomatous tumors forms a very interesting discussion of a much-vexed problem. Among the assertions made are these: According to Bayle, 20 per cent. of all women over thirty-five are affected by myomatous tumors. Dr. Williams thinks there can be no doubt as to the reality of the fact observed by many, yet doubted by good authorities, that cancerous disease may primarily originate in a myoma. It is a rare occurrence, only about a dozen instances of it have been recorded, but it does undoubtedly happen.

The chapter on Lymph-gland Dissemination contains the latest and most interesting scientific work on this important practical question. It involves, of course, the question of the recurrence of cancer and the whole subject is well treated. In general the subject of cancer of the uterus is very up to date. So much has been written on the subject that much of the material here presented comes with an air of familiarity, but the condensation has been very well done.

THE MEDICAL DISEASES OF INFANCY AND CHILDHOOD. By DAWSON WILLIAMS, M.D. Second edition, revised with additions by Frank Spooner Churchill, M.D. Lea Brothers & Co., Philadelphia and New York. 1900.

THIS work is a decided advance on Dr. Williams' first edition, admirable as was that little book. In this second edition the author has been fortunate in having Dr. Churchill as his American collaborator, and no small part of the up-to-date character of the work is due to the American editor. It has been the aim of the author to give pictures of the various diseases which shall emphasize the differences from their manifestations in the adult, so that the book is just what it professes to be—a treatise on disease in infants and children.

The subject of infant feeding is so large that it is of necessity inadequately treated; but the chapter on food will prove of great value to those young practitioners who are not familiar with the methods of home modification of milk, nor with the principles that guide one in percentage feeding. The illustrative cases are very instructive, and in this particular the book has followed the admirable plan of Rotch's able presentation of the subject. The reviewer thinks, however, that it would be better to advise putting babies to be weaned on formulæ much lower in proteids when first taken from the breast. The change to stronger formulæ should then be made just as rapidly as the absence of vomiting and of curds in the stools will permit. This for the reason that maternal milk, which analyses 4.0 fat, 7.0 sugar, and 1.5 proteids, is about twice as easily digested as the laboratory milk of exactly the same chemsult in the food being given too sweet, for the accurate measurement of the milk sugar in so large a vessel is difficult or impossible.

The author is to be complimented on the clear presentation of the important subjects of summer diarrhea and intestinal toxemia. The technic of lavage, of colon irrigation, and of all the best methods of treatment, is given in full, so that a comprehension of this chapter by every practitioner would result in the saving of thousands of lives every summer.

In the chapter on bronchitis and pneumonia the physical signs are admirably described, and the differences from the signs in adults clearly noted. In the treatment the author makes no mention of the usefulness in bronchitis and bronchopneumonia of the mustard jacket nor of inhalations of vapor from the croup-kettle; instead, graduated baths, warm or cold, are strongly advised.

Other chapters especially good are those on tuberculosis, rheumatism, hydatids, rickets and adenoids. In the last, however, no mention is made of the persistent and distressing spasmodic cough which is at times the only symptom of nasopharyngeal vegetations. Bromoform is recommended in whooping-cough, notwithstanding the well-known danger of the drug when given in emulsion, and despite its uncertainty of action. One misses the articles on achondroplasia and Mongolian idiocy in the former edition, but the full discussion of cretinism makes up for this loss. In the chapter are several reproductions of the illustrations in Osler's valuable article on sporadic cretinism. A good colored plate illustrates Koplik's spots which are so useful in the early and differential diagnosis of measles.

The author's long experience in the East London Hospital for Children makes the book one which every general practitioner would do well to have at hand. Throughout the work the best methods of clinical diagnosis are accurately described, and numerous references to journal articles and monographs add much to its value as a hand-book of the medical diseases of children.

URINARY DIAGNOSIS AND TREATMENT. By JOHN W. WAINWRIGHT, M.D. G. P. Engelhard & Company, Chicago, 1900.

DR. WAINWRIGHT'S little book is one of the series of monographs issued by the Engelhard Publishing Company. It is a very practical little manual and will undoubtedly prove of excellent service to the student and the practitioner. The series of plates giving the appearance and color of crystals that are found in the urinary sediment is an excellent feature and very well executed. Some of the proof-reading has not been very carefully done. The practitioner who, following the instructions of the book, buys a half-inch instead of a one-twelfth-inch lens in order to examine urine bacteriologically will not bless the individual to whose carelessness the error is due.

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THE MEDICAL NEWS.

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SPECIAL ARTICLE.

REPORT OF THE COMMITTEE OF THE MEDICAL BOARD OF BELLEVUE HOSPITAL, APPOINTED JANUARY 2, 1901, TO INVESTIGATE AND REPORT UPON QUESTIONS RELATING TO THE GENERAL ADMINISTRATION OF THE HOSPITAL.

ON January 2d, last, you directed your Committee of Inspection and the President of the Board of Managers of the Mills Training School to report, at as early a date as possible, such suggestions as would tend to the better administration of the Hospital. In accordance with these instructions, we beg leave to submit the following:

The Reception Office.—The Reception Office is utterly inadequate to the demands made upon it. At present, there are from 200 to 300 applicants for admission daily, and from 60 to 100 of these are admitted to this Hospital; the remainder are sent to other Hospitals of the Department or are referred to the Dispensary for treatment.

The space provided was at one time adequate for this work, but the great increase, which the above figures show, taxes the accommodation far in excess of its capacity. The positions of the rooms are such that they are badly ventilated and poorly lighted, and the construction is such that both sexes must be accommodated in the same general admission room, so that here the sober, the intoxicated, the very sick and even those who are fatally injured must be received. At one end of this room partitions are erected, which, however, are not arranged so as to secure privacy, nor maintain for the examining physician the quiet essential to the proper performance of his duties.

We would suggest that more commodious, better lighted and ventilated quarters be found for this work, and that provision be made to secure the order and quiet which is necessary for the examination of patients before they can be properly assigned.

We would also suggest that the physicians, who are engaged in receiving, examining and distributing patients at the Reception Office, be relieved from all clerical duty, as this is a detail which can be performed by a clerk and which, if lifted from the admitting physician, would give him more time for his exacting and important duty.

Granting that the above suggestions are adopted, the fact still remains that the large number of cases which have to be disposed of compels the expenditures of such an amount of time on the part of the House Staff of Physicians and Surgeons that it interferes seriously with their duties elsewhere. We would suggest, therefore, that an arrangement be made by which they may be relieved from this duty and that it be placed upon a staff especially appointed to this work, the details of the arrangement to be determined after conference with the Commissioner.

Number of Cases Admitted to the Hospital in 1900.—In connection with this question it is interesting to note that 24,300 patients were admitted to Bellevue Hospital during the year 1900, and that 11,370 of these were ambulance cases. Many of these 11,370 cases were in such an enfeebled state, either from disease or injury, that they required special care and attention in the Reception Office, but owing to the conditions above mentioned, it was difficult, and in some cases impossible to give it there.

Number of Ambulance Cases for the Same Period.—Of these 11,370 patients, the ambulances belonging to Bellevue brought in 4,616, of whom 128 were so ill that they died within twenty-four hours after admission. The other hospitals in the city delivered 6,754 patients in their ambulances to Bellevue, representing transfers from their own wards or cases of a kind they do not admit to their wards; of these, 107 died within the first twenty-four hours of admission. The following table shows in detail the numbers received from the ambulances of these several hospitals, together with the deaths within twenty-four hours which occurred among these admissions.

PATIENTS RECEIVED FROM OTHER HOSPITALS.

Hospital.	Admitted.	Deaths.
Harlem Hospital	287	4
Gouverneur Hospital	1,956	20
St. Vincent's Hospital	618	16
New York Hospital	473	4
Hudson Street Hospital	711	4
Presbyterian Hospital	772	11
Roosevelt Hospital	1,549	41
Flower Hospital	283	6
J. Hood Wright Hospital	59	1
German Hospital	19	0
Fordham Hospital	2	0
St. Luke's Hospital	12	0
Columbia Hospital	13	0
Total	6,754	107

The large number of ambulance cases delivered to us by other hospitals materially affects our death-rate, but we cannot escape this burden so long as they are authorized by law to impose it upon us. We append a comparative statement of the death-rate in this and other hospitals of this City.

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MORTALITY REPORT.

Year.	Hospital.	Number of Patients.	Died.	Per cent.
1900	St. Luke's Hospital	2,370	338	14.21
1899	German Hospital	3,091		5.48
1900	Presbyterian Hospital	3,322	394	11.82
1899	Roosevelt Hospital	2,913	326	10.50
1900	Mt. Sinai Hospital	3,270		10.19
1900	New York Hospital	6,032	329	5.44
1900	Pennsylvania Hospital	4,079	394	10.12
1900	Massachusetts General Hospital	4,816	407	8.45
1900	Boston City Hospital	7,945	939	11.81
1900	Bellevue Hospital	24,300	1,722	7.08

Selecting from the above list the hospitals situated in New York City,[1] it is seen that, combined, they provide for a total of about 21,998 patients annually, with an average mortality of9.44 per cent.; whereas this Hospital provides for about 24,300 patients annually with a mortality of 7.08 per cent.

Recording Office.—We would also ask attention to the inadequacy of the accommodations to be found at the office set aside for keeping the records of administration of the Hospital. It is open to the same criticism that we bestow upon the other office; that is, it is badly lighted, poorly ventilated, crowded and noisy. The importance of these two bureaus in the conduct of any hospital is such that we trust they will not be lost sight of in the improvements contemplated.

Insane Pavilion.—Continuing our report, we consider next the Insane Pavilion. The medical service rendered here is of a mixed character. Questions of insanity are dealt with exclusively by two physicians who are paid by the City and are outside the jurisdiction of this Board; all other medical questions are under the control of this Board.

As has been stated elsewhere in this report, the House Staff, in addition to their duties in the general wards of the Hospital and Reception Office, are also responsible for the care of the patients in the Alcoholic Pavilion, the Emergency Hospital, the Erysipelas Pavilion, theTuberculosis Pavilion, and the Prison Wards. During the past nine months they have also been required to assume charge of the insane, a service which calls for special knowledge and experience such as the members of the House Staff cannot be expected to possess.

We, therefore, renew the recommendation made to you nine months ago by the Committee of Inspection, that the patients sent to the Pavilion for the Insane be placed under the charge of a competent, well-qualified physician, with suitable salary, who shall devote his time exclusively to their care. There should also be an Assistant Resident Physician so that the Pavilion may never be without the presence of a competent medical attendant. The Resident Physician should be held absolutely responsible for the condition of every patient.

Nursing Service in the Insane Pavilion—

	Number of Patients.	Died.	Per cent.
[1] City Hospitals	10,032	910	9.28
Metropolitan	4,542	383	8.43

The nursing service of the male ward of the Pavilion should be in the charge of a carefully selected, supervising graduate nurse, assisted by trained asylum attendants. In the opinion of the Committee, male pupil nurses are not fitted for the care of the insane. In this connection we refer you to the accompanying report of the President of the Board of Managers of the Mills Training School upon the conditions which have prevailed in that Institution.

Touching the nursing done in the female ward, it appears to have been as good as circumstances required—the result, no doubt, of the presence of a supervising graduate nurse, the system approximating in some degree that recommended for the male ward.

Alcoholic Wards.—Wards 32 and 34 of this Hospital are set aside for the reception and care of patients who, though not insane, are apt to be noisy and irresponsible, and who cannot be properly guarded in the general wards of the Hospital. Most of such cases are alcoholics, but some few are the victims of nervous disorders, such as certain forms of epilepsy and hysteria, in which phases of temporary mania may develop. These wards are the only places offered as a free refuge to patients of these several classes, coming from Manhattan Island and the Bronx. When it was opened the number of patients annually treated therein was about 3,000, the numbers now vary between 5,000 and 6,000 each year, nearly one-fourth the entire admission to the Hospital for the corresponding period. The space was adequate for the three thousand yearly admissions, but with the large increase it is often severely congested, so that not infrequently patients must sleep on mattresses placed on springs on the floor, the number of ordinary beds not being sufficient. This does no special harm and does not serve as an unbearable discomfort, but such crowding is not sanitary and not advisable, and would not be permitted if adequate accommodations were available.

The increase in the number of alcoholics is due to several causes: (1) The increase in population, which, however, is the least. (2) To the fact that, as always, most of the alcoholics of other hospitals are sent to Bellevue. (3) To the large number of cases of acute drunkenness which are brought in by their friends or by the police to sleep off their condition here rather than sleep it off at home or at the station house. (4) To the increased number of alcoholics who, finding themselves well cared for, come in again and again to be treated—go out and return. These repeaters vary in their attendance from two to three times a year to, as in one instance, forty times within nine months. This clearly is an imposition, but it is very difficult when a man is in a state of intoxication to determine promptly whether it is the only diseased state

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which he presents, or whether some very serious condition may not be hidden beneath. It is, therefore, hazardous to refuse admission to cases of acute alcoholism. But in the opinion of the Committee, relief from this congestion may be obtained by securing a transfer to the workhouse of those who can be classed as habitual drunkards, as is shown by the following attempt to put this in practice.

In the six weeks beginning May 15th to July 1st past there were 462 male alcoholics and 161 female alcoholics; of these there were 60 males who were repeaters. A recommendation was therefore made by the Committee of Inspection to the Commissioner to the effect that a competent person be delegated to visit these wards daily, take out those who were repeaters, bring them before a magistrate and have them committed to the workhouse as habitual drunkards. This did not seem, in the opinion of the Commissioner, wise at that time. In order to test the efficacy of this plan in reducing the number of these repeaters, the Visiting Physician in attendance tried the method of threatening the above action to those who should come a second time. This was tried only in the male wards. The result was that during the following six weeks, from July 1st to August 15th, the number of admissions fell from 462 to 381 and the repeaters from 60 to 12. The admissions in the female ward were 181. Since that time, however, finding that this threat was not carried into effect, the number of admissions each month has gradually risen until during the six weeks from November 15, 1900, to January 1, 1901, it has gone up to 532 in the male wards alone.

Cases of Epilepsy, Etc.—Another cause of overcrowding in Wards 32 and 34 is the fact that they are the only places in the Hospital in which certain forms of epilepsy, hysteria and even surgical mania can be cared for. They cannot be treated in the general wards because they are not only disturbers of the peace but are sometimes dangerous to other patients or to themselves, requiring a degree of confinement and special care which cannot be secured there. Caring for such cases in wards to which alcoholics are assigned is an evil, but for the present it cannot be avoided in this institution, for the simple reason that there is no other place in which they can be provided for.

The Committee recommends that the members of the Visiting Staff exercise closer supervision of these wards than heretofore, and also suggests that the House Physician and Senior be assigned to the duty of these wards, rather than Junior, as has been the case in one instance, as the latter's experience has hardly been sufficient to entrust him with such responsibilities as must face one in these wards.

We refer to the report made by the Managers of the Mills Training School for particulars concerning the nursing in these male wards. In the female ward, as in the Insane Wards, it appears to have been as good as circumstances permitted.

Other Wards of the Hospital.—The general wards of the main Hospital Building are clean, and, considering the style of architecture, comfortable, so that in the matter of quarters the patients are well provided for. We do not mean to state by this that these quarters cannot be improved, but viewed in comparison with other portions of the building, notably such as are set aside for those concerned in the conduct and administration of its affairs, they are in excellent condition. The several pavilions standing on the grounds are very creditable, excepting those recently completed, such as the pavilion for erysipelas patients and the one for tuberculosis. Serious errors in design and construction exist in both, but they will no doubt fill passably well the purposes for which they were constructed.

The Marquand Pavilion, and its superstructure, continues to serve the excellent purpose for which it was erected, but here, as well as in other parts of the Hospital, we see the need for repairs so as to keep it in proper order and protect it from the ordinary wear and tear of exposure and use.

The Emergency Hospital.—The building outside the Hospital grounds used for lying-in cases is so utterly unfit for the purpose that your Committee can only condemn it in every particular. We are glad to report, however, that plans are in preparation by the Commissioner for converting a part of the building on these grounds, formerly used as a Medical College, into a suitable place for such cases.

The Dispensary.—The Dispensary has always been one of the greatest problems in the management of the Hospital. During 1900, 72,239 new patients were treated and 176,647 visits by patients, old and new, were received at this Dispensary. At the present time there is no direct supervision except of the most casual kind. Those left in charge are unfit to be in such a position and there is a general laxity of discipline and a non-observance of all rules that make it a jumble of good and bad service. It can best be described as being in a state of vicious decay, and only the most radical measures can keep it from being a discredit to the institution. It is essential that a paid Superintendent should be appointed who can remain on duty while the Dispensary is open and who can see that there is a proper distribution of patients, that there is an orderly condition of affairs in the Dispensary, and that the medical and other appointees attend to their work at the hours assigned and also be ready to decide the incessant petty disputes which continually arise; who can also see that the pilfering of bandages, drugs and instruments be made to cease, and the responsibiliy for such actions be placed where it belongs and instant suspen-

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The present method of the Superintendent of the Hospital making the rounds of the Dispensary for a few minutes at a time, in addition to all the other duties that he has to perform, is worse than useless for the proper administering of such an institution. A deputy or some one responsible to him for the care and conduct of the Dispensary, and who has absolute authority over those under him—subject to the approval of his superiors—is the only method that can bring anything like order out of the chaos that now exists. Your Committee speak thus positively on this subject for this method was tried a few years ago with great success.

Food.—We find that there is a lack of food of the right kind for patients recovering from severe illness. The very sick are provided for by the milk which is furnished in sufficient amount, but there is no adequate provision for the stages of convalescence, for the transition from a milk to a full diet. This can be made by increasing the *pro rata* allowance for the table, but in order to place it upon the right footing, we would suggest that a special Committee be appointed to inquire into the subject so as to fix the dietary as nearly as possible upon the same plane as was adopted by the Hospital in 1890.

Nurses.—In view of the criticisms which have recently been made of the Hospital, particularly of the nurses, this is a proper place at which to report upon that branch of the service. Outside the two pavilions, the Insane and the Alcoholic, it has been found satisfactory. This applies especially to the female nurses. For a time there was some strain owing to a deficiency in the supply of nurses of all kinds, male and female. This was most apparent in the night service throughout the hospital—including the Insane and Alcoholic Pavilions—contributing, no doubt, to the state of affairs which existed in these latter wards. The supply of nurses has, however, been recently increased so that no slackness or neglect can find excuse. With an adequate force of nurses on duty day and night, the Committee feels that this service is now upon a proper footing. One night nurse for each ward has been allowed, except in the Insane Wards, where three are recommended for night duty and four for day duty. The force of nurses in the Alcoholic Wards is also to be increased. The day nurses throughout the Hospital can be maintained at the present number, with additions in two or three of the male wards and perhaps one of the female wards. In order to facilitate the work of the male nurses, it is suggested that an Assistant Superintendent of nurses be nominated by the Managers of the Mills Training School, for each Medical and Surgical Division of the

The arrangement for the selection, instruction and discipline of the nurses which has heretofore existed, has led unintentionally to a division of responsibility in the government and control under which they work. In order to secure and develop the best material in both schools it is necessary that their fitness for the work and for the diploma of the school should be accurately determined. This compels the close supervision of a Superintendent of Nurses, one for each school, male and female, and necessitates instructors and examiners all under the direction of the Boards of Management of the two Training Schools. The bearing of this admirable system upon the nurses is unquestionably most excellent, but we suggest that, while the duties of those who supervise the nurses from the time of their admission to their departure from the school, be in no way curtailed, the Superintendent of the Hospital, as representing the disciplinary head of the institution as a whole, be placed in such control as will establish a more direct and short line of responsibility between himself and the nurses on duty than now prevails. The system of night reports which the present Superintendent has established, would appear to be an easy way of bringing this about, but he should have the right to suspend at once any nurse for cause. This need not interfere with the line of responsibility which runs from the nurse through the Superintendent of each School to the Superintendent of the Hospital, but it enables the Superintendent of the Hospital to act directly himself, in cases of conflict of opinion with these Superintendents, for his own judgment should dictate the proper conduct of the entire force of the institution under his control.

The Employees and Their Quarters.—The Committee now asks your attention to the problem presented in the character of some of the paid employees of the Hospital; many of whom are frequent inmates of the Alcoholic Pavilion. Those termed "help," who perform the menial service, are utterly worthless as a class. The reason for this is two fold, (1) insufficient pay; (2) unsanitary, poorly lighted, badly ventilated, crowded, and at times, dirty quarters. Quoting the report of the member of the Committee who gave special attention to this subject, we find that: "The dormitories for the male help are on the lower or ground floor. All these rooms are poorly lighted, with but few windows, and the ventilation is absolutely inadequate to the number of beds that have been crowded into them. The number of cubic feet of air to each occupant is far below what should be permitted.

Taking then in order: In the men's dormitory between the two prison wards, there are eighteen beds and the occupant of each bed has

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the occupants have, in some instances, a little more air—about 1,000 cubic feet in some cases—but in others the amount varies from 500 to 300 cubic feet for each bed. The care of the rooms, beds and bedding has been left to some caretaker, who, so long as the external appearances were not too gross, allowed things to move pretty much as chance dictated. Proper care of the cleanliness and condition of these dormitories by those having authority over the housekeeping does not seem to have been exercised. The conditions are such that they violate several laws laid down by the Sanitary Code of the Health Department. Living under these conditions, it is small wonder these individuals add further to the discomfort of their fellows by frequently going in at night drunk and disorderly and increasing the disagreeable features of the place.

In one dormitory the caretaker had had tuberculosis for several years, and careful examination by members of the Medical Staff has shown that five out of seventeen of the inhabitants of this place have acquired tuberculosis since forced to live there; it is all the more striking that those who have acquired this disease are among those who have lived there the longest.

The dormitories for women are kept in a little cleaner condition than are those for the men. The dormitory over the Alcoholic Wards is better than the others because of the high gable of the roof, but its forty-seven beds are so crowded together that a generous estimate of the air space is but 500 cubic feet to each bed.

The help sleeping in these female dormitories under these conditions must necessarily be of a poor order; and here also drunken disorders and fights at night add to the discouragement of having any decent help in the Hospital.

The principle which has been insisted upon during the administration of the present Commissioner—that there should be paid help and thus responsible help about the Hospital—is the only right standard, but if the existing conditions of living in the cells and cellars of the Hospital or huddled together in large numbers prevails, it will be impossible to attain it. Proper help cannot be secured until these conditions are remedied, and at least a decent state of living is guaranteed to those who go there to work for their livelihood.

The present necessity which the Commissioner is under of utilizing as a dormitory the large dissecting-room in the building, used up to the present year as a medical college, but accentuates the above statement and shows the straits to which he is reduced in his endeavor to meet the absolute needs of this situation.

The class of employees engaged in the duties of messengers, as attendants at the telephone, in the store-room, the laundry—and some of those doing clerical work are too often sufferers from some chronic ailment which makes it impossible for them to render proper service.

Question of Nurses.—Continuing our report upon the accommodations furnished those who are concerned in the service of the Hospital, we come next to those provided for the nurses. These are situated in the Mills Building and the Building of the New York Training School for Nurses, this latter being outside of the Hospital grounds and entirely independent of it and supported in part by a private fund furnished by its Board of Trustees. These two fine buildings, the gifts of private citizens, furnish adequate accommodations up to the present time. The increased number of nurses which our necessity demands, will however require a corresponding increase in these accommodations, otherwise conditions will speedily prevail in the quarters of the nurses which have proved such a serious drawback in the case of the resident House Staff of the Hospital, a matter of which we will now speak.

Quarters of House Staff.—In presenting the conditions which prevail in the accommodations provided for the House Staff, this all-important factor in the administration of any hospital, we desire to call your attention to the following:

The duties devolving upon the Staff of the several Divisions, medical and surgical, are greater and more complex than in any other hospital in the City. The service in the 32 wards of the main Hospital is at all times active. In addition the following services outside of the general wards are dependent for their proper care and supervision upon this same corps: Service in the Reception Office, in the Male and Female Prison Wards, in the Alcoholic Wards, in the Insane Pavilion, in the Emergency Lying-in Hospital, in the Tuberculosis Pavilion, in the Erysipelas Pavilion, together with ambulance calls, of which there were 4,616 during the year just ended.

The number of physicians and surgeons required for these extended duties is much greater than can be accommodated in the quarters available, so that in most of the rooms occupied by them as many as three must live continuously. The excess sleep in quarters which they provide for themselves outside of the Hospital grounds. During the day often late at night, they are at work in the Hospital, and of necessity must be accommodated in some measure somewhere; this can only be found in the already over-crowded rooms of their associates, hence it is that from five to six of these young men are not infre-

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quently compelled to use one room in the intervals of their ward and other duties. The general sitting-room on the office floor is supposed to furnish this sort of accommodation for the Staff, but is used for so many different purposes that it is frequently not available.

A bare statement of this condition would seem to be sufficient to condemn it, but when we look further and realize that with three men sleeping in one room, and that in the discharge of their regular duties each is liable to be called up at least once during the night, making not infrequently as many as three interruptions a night for the entire room, the disadvantages are obvious. Add to this the impossibility of securing quiet in the face of the coming and going of five or six men who frequent the room during the day, and it appears that sufficient sleep is not always obtainable. This is a state of affairs incompatible with the highest grade of work in the extremely exacting position in which these men are placed. The sanitary condition of these quarters is only fair, the degree of cleanliness is what it should be, and as a whole, they are not what a great city should provide for men in its service who, without pay, are constantly facing the grave emergencies which a fight for the health, efficiency and life of its charges constantly present.

Conclusion.—We are of the opinion that the rules and regulations of the Hospital are correct upon the whole, that the various divisions and subdivisions of the force which is concerned in its administration are, as far as circumstances permit, organized upon correct lines. A division of authority has, however, existed which has been responsible for the defective execution of the laws under which the Hospital was supposed to live. This, as we stated to the Commissioner, some time ago, can be obviated by a head which places itself in contact with these various subdivisions and exercises immediate and vigorous control over all. We are glad to say he has accomplished this by installing Dr. Stewart.

But permanent improvement is rendered difficult and, some of us believe, impossible in the face of the inefficiency of the paid employees as a class, and the wretched accommodations furnished to so large a portion of your Staff, doctors and employees alike. Correct this and raise the *per capita* allowance of this Hospital to a figure approximating that which obtains in like institutions in this city and the crying evils will be permanently eradicated. Otherwise the outcome of this effort at improvement will end as the many which have preceded it. Decent service requires fair pay and decent accommodations. To which end we earnestly recommend an increase in the *per capita* allowance and also that the main Hospital building should be replaced at once by a modern and more commodious structure.

We beg to call your attention to the following comparative statement of the *per capita* allowance in this and other leading hospitals.

PER CAPITA COST PER DIEM FOR WARD PATIENTS.

St. Luke's Hospital	$1.82
Presbyterian Hospital	2.44
Roosevelt Hospital	2.195
Mt. Sinai Hospital (new hospital)	1.38 1/6
New York Hospital	2.08
Pennsylvania Hospital (Difference in cost between N. Y. and Phila.)	1.17
Massachusetts General Hospital (Difference in cost between N. Y. and Boston)	1.96
Boston City Hospital	1.77
Bellevue Hospital	1.21

Selecting for comparison the five hospitals in the above list situated in New York City, it is seen that the average *per capita* allowance provided for each patient is $1.98, as against $1.21 for Bellevue Hospital; a statement all the more worthy of official consideration when we compare the commodious and well equipped quarters, in which their patients (18,907 in all) are cared for, with those at Bellevue Hospital in which we care for the 24,300 patients which fall to our lot.

WM. M. POLK, Chairman,
A. A. SMITH,
GEO. B. FOWLER,
ALEXANDER LAMBERT,
JOHN W. BRANNAN.

ORIGINAL ARTICLES.

VACCINATION, CLINICALLY CONSIDERED.[1]

BY FRANK S. FIELDER, M.D.,
OF NEW YORK;
ASSISTANT DEMONSTRATOR OF ANATOMY IN CORNELL UNIVERSITY MEDICAL COLLEGE; MEDICAL INSPECTOR IN THE NEW YORK CITY HEALTH DEPARTMENT.

IT would be quite impossible in a paper of reasonable length to discuss exhaustively the clinical aspects of vaccination. I shall therefore wholly omit reference to some phases of the subject, and deal very briefly with others. Even so, I fear I shall tax your patience.

Clinical Course of the Normal Vaccinal Eruption.

The following description applies to primary cases vaccinated with virus of *high grade* efficiency.

Period of Incubation.—This lasts two or three days. Immediately after vaccination a small area of redness appears around the scarified spot. This subsides in a few hours. At the end of forty-eight to seventy-two hours; the second stage begins as a *papule,* which exists by itself for one or two days. The *vesicle* begins to develop by the end of the third or fourth day. Its first appearance and manner of growth vary according to the method used in performing the vaccination. If the virus has been introduced by *puncture,* the vesicle first shows at the site of puncture minute in size and quite round. Within a day or two it has became distinctly umbili-

[1] Read before the Section on Pediatrics of the New York Academy of Medicine, February 14, 1901.

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cated, and is well raised above the surface of the skin. It increases in size until it reaches a diameter of $^3/_{16}$ to ¼ inch, and is rarely more than ⅜ inch in diameter.

When the scarification method has been employed, vesiculation begins at one or frequently at two or three points around the edge of the scarified area. The vesicle then spreads until it forms a ring. If the scarified area has been of considerable size, the center is not covered by the vesicle, but is occupied by a depressed crust, which corresponds to the umbilication in a vesicle resulting from puncture. If the scarified area has been small, the vesicle will occupy this whole area, and will bear a small crust upon its somewhat depressed conter. In either event, the greatest evidence of the process which finally results in the well-known scar is at the periphery of a ring-shaped vesicle; and it is by peripheral extension and the consequent broadening of this ring that the vesicle increases in size.

The shape of the vesicle depends upon that of the original scarification. If the latter is square the vesicle will be round; if oblong, it will be more or less regularly elliptical. When the virus has been inserted along double lines of scarification, small vesicles will appear along these lines; these will coalesce as the process advances, and the final result will be a compound vesicle of somewhat irregular outline.

When fully developed, about the sixth day after vaccination, the vesicle is of a pearly color, and is well distended, its edge rising abruptly from the papular base upon which it lies. Upon opening the vesicle, it is found to be composed of numerous cellular spaces, separated from one another by delicate walls, and containing a clear, very pale lymph.

Areola and Pustule.—On the seventh or eighth day, as a rule, the so-called areola appears. The skin around the vesicle becomes red and hot, for a variable distance, with a painful induration of the subcutaneous tissue. The erythema is often more extensive than the induration. The size of the areola and the extent of induration are very variable, but as a rule the circumference is not more than two inches from the edge of the vesicle. The color of the areola should be deep pink or bright red. Within a day or two after the first appearance ot the areola, the vesicle changes to the so-called "pustule." If very pure virus has been used, this at first is often not true pustulation; the vesicle simply loses its translucent look, and becomes opaque, with perhaps a slight yellowish cast. Beneath the central crust there is a drop of pus, such as underlies the scab of any encrusted sore, but the contents of the vesicle are still serous, though the serum may be slightly turbid and contain a few leucocytes. If the vesicle contains bright yellow or greenish pus on the seventh day it may be considered infected. When the areola is at its height on the ninth to the twelfth day the adjacent lymph-nodes often become somewhat swollen and painful.

The formation of the areola and the pustulation are attended by a constitutional disturbance which varies according to personal idiosyncrasy, but which is usually proportionate to the extent and severity of the local inflammation. There is elevation of temperature, the child complains of itching and pain, and is restless and irritable, especially at night. There may be anorexia and more or less prostration. If there has been no septic infection, these symptoms are usually moderate, and subside in a few days—three days to a week. Some children escape them almost entirely. The pustule gradually increases in size, reaching its maximum from the eleventh to the thirteenth day; at this time its diameter is from ⅛ to $^3/_{16}$ inch greater than that of the vesicle just before pustulation.

Desiccation and Cicatrization.—Sometimes the contents of the vesicle begin to dry up by the ninth or tenth day; usually, however, they turn to pus. Then, about the eleventh or twelfth day the areola begins to fade, the constitutional symptoms to subside, and the pustule to desiccate. A hard, dark scab is formed, which is shed from the eighteenth to the twenty-fifth day (oftenest about the twenty-first), leaving a pit-shaped depression. Upon this area a secondary scab often forms to be shed a few days later.

As regards constitutional symptoms, we may, roughly speaking, divide the vaccinal course into three periods of one week each: (1) A mild week of invasion and vesiculation, before the appearance of the areola; (2) a severe week during the existence of the areola, the swelling and the pustulation; throughout this period, pain, fever, anorexia, restlessness and irritability are likely to be marked; (3) a mild week, beginning with the fading of the areola, and the desiccation of the pustule, and ending with the shedding of the scab. During this week the constitutional symptoms subside *pari passu* with the subsidence of the local inflammation.

Variations in the Normal Clinical Course.

Early and Delayed Vesiculation.—Rarely the vesicle will appear on the second day. It is much more commonly delayed until the fourth, fifth, sixth, seventh, or even the eighth day, the subsequent history being apparently normal. Note is made of three primary cases observed by the vaccinators of the Health Department in which there was no vesiculation on the eighth day, and the cases were supposed to be failures; yet, at the end of ten days to two weeks, typical vesicles developed, which ran through the usual course and left typical scars. One of the cases mentioned was one of five test cases inoculated with a partic-

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the fifth met with the delay above mentioned. In general, however, late vesiculation means virus of impaired activity.

Variations in Areola and Constitutional Symptoms.—The most notable variations that may be said to come fairly within the limits of a normal course are observed in the amount of areolar inflammation and in the intensity of the constitutional symptoms. A normal, uncomplicated vaccinia may run a mild or a severe course, just as does scarlatina, measles, varicella or variola.

If the vesicle is typical in appearance, and the areola, even if large and much indurated, is only a bright red, the condition may be regarded as normal, although severe; but if the vesicle is irregular in shape and hemorrhagic, or filled with very yellow or greenish pus and covered with a dirty looking crust, and if, moreover, the areola is of a livid purple near the edge of the pustule and dark red for a considerable distance away from it, the case is probably one of mixed infection. There is a sinister look about these infected cases which is quite characteristic. Cases in which the arm has been carefully cleansed before inoculation, and in which pains have been taken to prevent infection and to preserve the vesicle intact, present large and dark areolæ much less frequently than those in which such precautions are not taken. It is therefore fair to assume that such an areola is caused by infection other than pure vaccine infection. This extraneous infection may, of course, be due to impure virus or may be introduced from without at the time of vaccination or afterward.

Modifying Effects of General Ill Health, Skin Diseases, Hot Weather and Diarrhea.—Ill-nourished, bottle-fed and marasmic babies often respond atypically, or not at all to a virus which gives perfect results in healthy children. It is said that vaccination often fails to take typically in children affected with skin eruptions, especially eczema, but in the few eczematous children which I have vaccinated the disease has not appeared to modify the ordinary vaccinal course. It is also asserted that vaccination often fails when performed in hot weather, or upon children suffering from diarrhea. I have vaccinated many children on extremely hot days. Some had diarrhea at the time of inoculation and others developed it during the evolution of the pock, but neither the heat nor the diarrhea had apparently any influence in preventing the development of typical vesicles.

Raspberry Excrescence and Its Protective Power.—Quite frequently, when virus of a low grade of activity has been used, no vesicle develops, but there appears, instead, a hard, elevated excrescence, grossly resembling keloid, and in color like a fully ripe red raspberry. This elevation is not sensitive, no areola develops around it, and there is no inflammation of the excrescence itself. This persists for some time, but is finally absorbed and disappears entirely, leaving no scar. The significance of this excrescence and its protective power are disputed points. Some hold it to be an abortive take, and claim for it some slight protective value, while others maintain that it affords no protection whatever. A certain number of such cases have been revaccinated as soon as the raspberry has been formed. In most of these the second vaccination has been successful. Sometimes typical vesicles have resulted, but more often the cases have run the course of a secondary vaccination instead of the typical course expected in true primary cases. In a few instances, repeated attempts to vaccinate have failed entirely, although virus was used which had resulted typically in all other cases tried. From these facts, the inference may be drawn that in some cases the raspberry excrescence does afford slight protection, at least against immediate revaccination. Occasionally raspberry marks and typical vesicles develop side by side, and sometimes a vesicle develops upon a raspberry base; but in the latter case the vesicle usually runs an abortive course. A raspberry excrescence is an evidence of poor virus. I have not seen one develop in a case of primary vaccination for two or three years.

Abortive Course.—In this, the vesicle appears early or late and never reaches full development; pustulation takes place early, and cicatrization follows before the end of the second week. This course is normal, although not invariable, in all vaccinations after the first. When it is observed in a supposed primary case, careful questioning usually elicits the fact that vaccination has been attempted before, but was supposed to have been a complete failure. A close examination of the arm will, however, usually discover a faint scar. If a true primary case runs an abortive course after vaccination with virus of unimpeachable quality, and if conditions such as seriously-impaired general health, or skin disease, which might possibly modify the course of the vaccination do not exist, it may be inferred that the individual is partially immune.

Complete Natural Immunity to Vaccination.—This is practically unknown, and those who have seen most vaccinations are least inclined to admit the possibility of its existence. The testimony of the vaccinators of the Health Department of this city, who have in some cases had an experience lasting over tens of years, and embracing hundreds of thousands of vaccinations, is that instances of complete natural immunity are extremely rare. The medical officer of the Local Government Board in England says that "from reports received from the Board's own vaccinators, covering a period of some fifteen years, and having concern

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with no less than 95,677 consecutive primary vaccinations, it has been shown that no single case of insusceptibility has been met." There have been, however, during the century, many cases reported which have shown, to say the least, a remarkably refractory condition toward vaccination. In 1825 Spurgin reported three children as insusceptible to vaccination, and also insusceptible to variola with which he subsequently inoculated them.

I have seen one case which I was convinced was one of true idiopathic immunity. This was in the person of a physician of this city, who had been vaccinated many times, but always with absolutely no result. At one time during a considerable period he came frequently in contact with smallpox, but never contracted the disease. The most minute inspection of his arms, where all his vaccinations had been performed, failed to discover that any one of them had left the slightest mark. During the winter of 1895-96 I vaccinated him twice with two different specimens of Health Department glycerinated virus, both of which I had proved, by rigorous tests upon children, to be of more than usual activity. Both attempts were complete failures. In September, 1896, I made another attempt with unimpeachable virus. This also failed.

A curious case is now recovering from smallpox at North Brother's Island. The patient, a negro, was for many years a private in the United States Army. He had been vaccinated time after time by army surgeons at different posts, always without effect. He presented no scar. Recently he contracted smallpox which ran a severe course with a profuse, discrete eruption. Unfortunately, we are not certain of the efficiency of the virus used upon him; but it is to be inferred that his reputation as an immune would have led some of the surgeons who vaccinated him to be certain upon this point.

The Scar.

For several months after vaccination the normal scar is red and is usually depressed. Gradually it loses color, but is pinkish in the center for a year or more. Its final appearance in typical cases is as follows: In color it is whiter than the surrounding skin, the outline is quite regular, the edge sharply defined, and the entire area is slightly depressed, the center is smooth or somewhat striated, and is surrounded by a more or less deeply and numerously foveated ring. This ring corresponds to the area of active vesiculation; while the center represents either the original area of scarification, or the cicatrix following the separation of a more or less deep central slough. The shape of the scar depends upon the shape of the original scarification, while its size depends partly upon the size of the scarification, and partly upon the activity of the virus.

A poor scar is irregular in outline, with an ill-defined margin, no depression and with little or no foveation. Sometimes the scar is "poor" even when the vaccination has been a well-marked and typical course, but as a rule a good vaccination gives a good scar.

Complications.

Skin Eruptions, Infections, Generalized Vaccinia, Etc.—A monograph would be required to describe adequately all the complications which have been observed to follow in the train of vaccination.

In the old days of humanized virus, there was real danger of transmitting syphilis, and possibly tuberculosis. Now that bovine virus is almost exclusively used, the bugbear of invaccinated syphilis has disappeared. The possibility of inoculating tuberculosis is also extremely remote. Most of the vaccine laboratories now propagate their virus upon calves. Villain, chief of Meat Inspection in Paris, asserts that he has never seen a tuberculous calf between the ages of four and six months, among the 753,851 calves of this age killed in the abattoir during the years 1888-89-90. The calves used in the vaccine laboratory of the Health Department of this city, carefully selected in the first place, are killed immediately after the collection of the virus, and their organs carefully examined by a veterinarian for evidences of disease, with the idea of rejecting the virus if disease is found. For several years, to my certain knowledge, no virus has been rejected because of tuberculosis in the animal. The inoculation of syphilis or tuberculosis, then, need no longer be feared.

Allbutt, in his System of Medicine, gives an elaborate classification of the rashes and infections which may complicate the course of vaccinia. I have space to mention only a few of those most frequently seen.

SKIN ERUPTIONS.—These usually develop about the time the areola appears, but may develop earlier. By far the most frequent of these is a *roseolous rash* which often quite closely resembles measles or the eruption which so frequently follows the injection of diphtheria antitoxin. The roseolous patches, small or large, may be distributed over most of the body. In some instances the eruption seems entirely non-inflammatory, and is attended by little or no itching or constitutional disturbance. In other cases itching is severe. In either event the rash subsides in two to four days without treatment.

Erythema Multiforme.—Another fairly common rash follows some one of the types of erythema multiforme. For instance, there will be a more or less general distribution of erythematous patches, ¼ to ¾ inch in diameter, with a small vesicle in the center of each patch. There is considerable itching, the vesicle is soon destroyed by scratching, and a bloody crust is formed which promptly dries up. The patch fades, leaving a faint pigmen-

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tional symptoms.

Scarlatiniform Rash.—This sometimes appears and may present a very perplexing problem in diagnosis. In a recent private case of my own such a rash appeared on the fifth day after vaccination. The child had a little fever and the tongue and throat were red. Neither the diagnostician of the Health Department nor myself could make a positive diagnosis. The rash disappeared within twenty-four hours, as it often does in mild scarlatina. Desquamation did not take place, and it was only upon this feature, after a ten days' quarantine, that the diagnosis of scarlatina could be finally excluded.

Eczema.—It is asserted that vaccination is often followed by an outbreak of eczema, especially in a person who has had this disease at some previous time; and that, as a rule, an eczema existing at the time of vaccination is made distinctly worse. I have vaccinated numerous eczematous children, but have not observed that the disease was thereby aggravated; nor have I observed the lighting up of an old eczema which at the time of vaccination was inactive.

It is also held that there is danger of causing generalized vaccinia by auto-inoculation over the eczematous area, but this must be of rare occurrence, for at the Hôpital Saint Louis in Paris, for several years, all the dermatological cases were vaccinated, and yet only one case of generalized vaccinia appeared.

INFECTIONS.—*Septicæmia* of virulent and even fatal type has been observed, though rarely. Many of the cases reported have occurred in groups, following the use of particular specimens of humanized virus.

Cellulitis, or Dermato-Cellulitis.—Some degree of localized septic infection is the commonest of all the complications. This may be of any grade of severity, from an inflammation which is scarcely more intense than that seen in a severe normal case, up to the most virulent form of gangrenous cellulitis, with suppuration of the adjacent lymph-nodes and grave constitutional disturbance. Fortunately, very few cases pass beyond the stage of a moderate cellulitis, with some sloughing at the site of the vesicle, and a more or less marked non-suppurative axillary (or inguinal), adenitis. Such cases demand, and usually respond kindly to treatment upon general surgical principles. I have seen only two cases of suppurative adenitis.

Erysipelas.—This is said to be a fairly frequent complication. The dividing line between this disease and cellulitis is a very indefinite one, both bacteriologically and clinically, and it is sometimes difficult to decide whether a particular case is one of erysipelas or of local dermatitis and cellulitis due to ordinary pyogenic infection. The classical distinctive is most intense at its spreading edge; vesicles form on the surface of the affected skin; resolution takes place just at the point first attacked, and is attended by considerable desquamation. If only such classical symptoms be regarded as erysipelas, I have observed no instances of this disease after vaccination. The brilliant blush upon the skin which is seen in many cases of infected vaccination, frequently suggests erysipelas, but in these cases the inflammation does not extend very rapidly or very widely; it almost never goes beyond the affected limb; it is most intense in the immediate vicinity of the vesicle, and continues to be most intense there; vesicles do not form upon the skin, except perhaps a few in the immediate vicinity of the vaccinated spot; resolution takes place first at the periphery of the inflamed area, and last at the point first attacked, and is not attended by desquamation. True erysipelas complicating vaccination is certainly rare at the present day.

Impetigo Contagiosa.—Sometimes this occurs as a complication. Two cases observed by the writer were already well developed on the sixth day after vaccination. In one, a lesion of impetigo was situated at the site of each of the three inoculated spots, and there was a patch of the disease on the back of the infant's neck. In the other infant, the eruption was confined to the lower part of the back, and may have been only a coincidence, although no skin lesions had existed before vaccination. Constitutional symptoms were insignificant in each case. The same virus was used on both children. In no other cases vaccinated with this virus did impetigo or any other eruption appear.

Tetanus.—This is a rare complication. Huddleston, in an examination of the literature found only 12 cases, 11 of which were fatal in periods varying from three to fifteen days.

Delayed Healing After Shedding of Scab.—In some infected cases, and also in some which have run an apparently normal course, an indolent ulcer follows the shedding of the scab, or the spot is covered with flabby exuberant granulations. Untreated, these cases often remain unhealed for months. Frequently these spots heal temporarily, but the cicatrix is of such low vitality that it breaks down repeatedly, and the case may go on for months alternately healing and breaking down, unless appropriately treated by the physician.

Generalized Vaccinia.—By this is meant, not the appearance of a few supernumerary vesicles near the site of vaccination, but an eruption passing through the successive stages of papule, vesicle and pustule, which comes on within a few days after vaccination, and which is diffused more or less extensively over the body.

The cause of generalized vaccinia is disputed.

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Some authors claim that every case is an auto-inoculation, and certainly, in many instances, this is an adequate explanation of the presence of the additional lesions. Five such cases have come under my own observation. In one case, two vesicles appeared side by side just above the wrist of the vaccinated arm. The child had gotten some of the blood and vaccine mixture upon her right hand, and had rubbed it upon her left wrist. The mother had wiped the wrist with a cloth but had not washed it. The extra vesicles were as far advanced when inspected as the original ones. This was an unquestionable case of auto-inoculation. In another case the struggling child was accidentally pricked upon the back of the hand with the still-charged lancet immediately after vaccination. In spite of washing a vesicle developed. In a third case, a vesicle developed upon the cheek on the same side as the vaccinated arm, due, doubtless, either to infection by means of the finger-nails, or to actual contact of the cheek with the vaccinated spot. In the fourth case, four vesicles appeared; one on the left forearm (the vaccinated side), one on the right forearm, one on the right upper arm, and one on the left thigh. This was on the seventh or eighth day after vaccination, when the original vesicle was already well developed and surrounded by an areola. The new vesicles were soon broken by scratching, and their progress, therefore, could not be accurately followed, but they seemed to run the short course of a secondary vaccination. No positive history of auto-inoculation could be obtained in this case, but as the child could easily have infected himself without the knowledge of his parents, and as the lesions could easily be explained on the auto-inoculation theory, there would seem to be no reason for postulating a systemic infection. Inspection of this case six months after vaccination showed rather poorly marked scars at the sites of the supernumerary vesicles.

The fifth case was clearly one of auto-inoculation. The child scratched its arm, and rubbed its eyelid with the infected fingers. As a result there developed three vesicles, one on the upper lid and two on the lower, just where their edges came together in closing the eyes.

Cases of true generalized vaccinia, however, do occur. Chauveau produced the condition experimentally by injecting virus into a lymphatic.

Huddleston has collected, from the literature, 45 cases of generalized vaccinia with 7 deaths. Of these cases, 12 could reasonably be explained on the theory of auto-inoculation, and in 13 more such a cause was possible, though not probable. In the remaining 20 cases, no such cause could be reasonably claimed, and a diffusion of the virus by the blood or lymph channels was apparently a necessary explanation.

The diagnosis of generalized vaccinia, usually easy, may be difficult. Varicella, miliaria, or a simple vaccination rash of vesicular type may present characters which strongly resemble generalized vaccinia. In such a case the doubt may be removed by taking lymph from a vesicle at a distance from the site of vaccination, and inoculating another subject with it. If the case is one of generalized vaccinia, a true vaccine vesicle will of course, develop.

Immunity Conferred by Vaccination to Smallpox and Revaccination.

Immunity to revaccination or to smallpox through the medium of vaccination is acquired rather slowly. Repeated experiments by vaccinating a subject daily until the vaccination fails to take have shown that immunity is secured usually in from seven to ten days, more rarely not until a few days later.

The incubation period of smallpox varies, but is usually eleven to fifteen days. If a person is vaccinated on the day of exposure, or even on the next day, he is likely to escape the disease altogether, but may have varioloid. In case smallpox develops during the evolution of the vaccine pock, the following facts are likely to be observed: If the smallpox eruption appears before the vaccination has reached the stage of areola (eight to ten days), the disease will not be much modified, but the vaccination vesicle will quickly dry after the disappearance of the eruption—in other words, the smallpox will modify the vaccination. If the vaccination has reached the stage of fully developed areola by the time the smallpox eruption appears, the disease will be mild, and evidently modified by the vaccination.

Immunity Is Not Interfered With by the Destruction of the Vaccine Vesicle.—Bosquet proved this by the following experiment: on the fourth day after vaccination, he destroyed with the lancet and with nitrate of silver the papules which had begun to be visible, but immunization occurred just the same as if the vaccinal eruption had been allowed to follow its normal course.

Aimé Martin destroyed the skin with Vienna paste at the point of inoculation before the appearance of any papule, and subsequent inoculations showed that immunity had already been acquired. In cows, Maurice Raynaud excised discs of skin including the points of inoculation, twenty-six hours after the operation. There was no trace of a cutaneous eruption, but the animals were immune to revaccination two weeks later. In the laboratory of the Health Department of this city it was found that in calves immunity was not secured unless two days were allowed to elapse before the excision was practised; but all experimenters agree that after the vesicle has appeared, its destruction does not prevent immunity. Chauveau found that the injection of vaccine virus into the lymphatics or veins caused a general eruption with resulting immunity, without, if proper precautions were taken, the development of the local lesion at the point of injection.

The local lesion, then, is not requisite in

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to open and cleanse an infected vaccine vesicle for fear this measure may lessen the degree of protection afforded by the vaccination.

The mechanism of immunity is still unexplained. We only know that the infusion of serum from vaccinated animals, during the stage of eruption into unvaccinated animals, has shown that the vaccinogenous substance is present in the blood during this stage. It is there, however, in comparatively small proportion, since it is necessary to infuse large amounts, nearly $^1/_{100}$ of the body weight, in order to secure immunity to subsequent vaccination.

Effect Upon the Fetus of Vaccination or Smallpox in the Mother.—Little or no immunity is given the fetus by vaccinating the mother. Wolf vaccinated 17, and Gast vaccinated 16 women in various stages of pregnancy, and subsequently vaccinated the children with complete success. Behm, after successfully vaccinating 63 pregnant women, found 12 of the children refractory to the first vaccination, and of these 12, two were afterwards successfully vaccinated, one in the second month, and one at the end of a year. Dubiquet obtained 44 "takes" in 50 cases of new born children, whose mothers had been successfully vaccinated during pregnancy.

Variola in the pregnant woman does not confer immunity upon the child. In fact the fetus *in utero* may be attacked and the child be born with the active eruption, or with the scars of the completed disease.

Children born while the mother has smallpox usually contract the disease. If the mother is in the early stage of the disease at the time the child is born and if the infant is vaccinated at once it *may* escape. As a rule, however, a portion of the incubation period has elapsed before birth, so that the eruption appears before immunity can be secured by vaccination and the infant dies of the disease.

Duration of Immunity Conferred by Vaccination.—The duration of immunity, both to smallpox and to revaccination, is extremely variable. For a period after Jenner's epoch-making discovery it was believed that the vaccinated person was thenceforth always protected against smallpox; but the history of many epidemics has proved the fallacy of this belief, and it is now generally recognized that permanent immunity is of rare occurrence. In general it may be said that a severe case of smallpox is rarely seen within ten years of a successful vaccination; and that within five years, very few cases even of varioloid occur. Dillingham states that he has seen but one case of smallpox follow a successful vaccination within as short a time as five years. This was a very mild case of varioloid, vaccinated five years before. Not more than twenty lesions were present on the entire body.

There is now at North Brother Island a man, twenty-four years of age, who was once successful this point, because many physicians hesitate size and quality for a revaccination scar. The patient has a very mild attack of varioloid with about eighty lesions. This patient's wife, eighteen years of age, was also successfully vaccinated in childhood, and again two years ago. She is in the hospital with a mild case of varioloid.

In exceptional instances, neither smallpox nor vaccination appear to confer protection either against subsequent attacks of smallpox or aganist revaccination. Brouardel reports the case of a woman, thirty-two years of age, whom he saw in 1868 suffering from confluent variola. In 1871 she had an attack of discrete variola. In 1873 he vaccinated her, and was surprised to find that it took perfectly. Thereafter he revaccinated her six times at intervals of six months, and each time the vaccinal eruption appeared with absolute regularity.

Allbutt reports the case of a woman who had smallpox three times and was three times successfully vaccinated. She was born in 1858. Her mother had smallpox when the babe was eight days old and the child took it in mild form. At the age of three months she was successfully vaccinated, three scars resulting. In 1881 she was successfully revaccinated—two scars. In 1883 she had a second mild attack of smallpox. In September, 1892, she was successfully revaccinated for the second time. In November, 1892, and in 1893 vaccination failed. In 1896 she had a third very mild attack of smallpox.

With reference to the duration of immunity following vaccination, Wm. M. Welch has attempted to determine at what age after primary vaccination any considerable number of persons contract smallpox. He has compiled the following table from the records of the Philadelphia Smallpox Hospital.

TABLE I.

	Cases.	Deaths.	Per cent. of Deaths.
Under 1 Year.			
Unvaccinated	89	60	67.41
Vaccinated	2	0	0
1 to 7 Years.			
Unvaccinated	467	221	47.32
Vaccinated in infancy—good scars	11	0	0
" " " fair "	10	1	10
" " " poor "	15	1	6.66
Total number vaccinated	36	2	5.55
7 to 14 Years.			
Unvaccinated	242	72	29.75
Vaccinated in infancy—good scars	55	2	3.63
" " " fair "	23	2	8.69
" " " poor "	59	9	15.25
Total number vaccinated	137	13	9.48
14 Years up.			
Unvaccinated	1,111	693	62.37
Vaccinated in infancy—good scars	1,406	122	8.67
" " " fair "	664	96	14.45
" " " poor "	1,027	286	27.84
Total number vaccinated	3,097	504	16.27

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This table shows that the protection afforded by vaccination in infancy fails rarely before seven years of age, fairly often between seven and fourteen years and very often after fourteen years. It is evident, then, that in the presence of an epidemic the general rule that a successful vaccination will hold good for five or seven years is not to be relied upon.

Variability of Immunity.—In 1856, Lalagade, in a statistical study of 2,201 cases of revaccination, found that in children from five to ten years of age, revaccination was successful in only 8.75 per cent. of the cases; that between the ages of ten and thirty-five, the percentage of success was about 50; and that after thirty-five years the receptivity rapidly diminished. Unfortunately it is not stated whether the virus used in these tests was of proved efficiency. I note this startling omission in almost all reports. This may account for the discrepancy between Lalagade's results and those of the school vaccinators in this city. The virus which they use is rigidly tested upon primary cases before it is placed in their hands. Their reports show that at least 75 per cent. of the children in the primary and grammar school grades are susceptible to revaccination. In some schools in which revaccination has not been recently performed, the success has been above 95 per cent.

Short Duration of Immunity.—The duration of immunity to revaccination may be very short; and probably is short in a much larger proportion of cases than has been suspected, for the operation is seldom performed within one or even two years after a previous successful vaccination. Buchanan has reported a series of cases occurring in prisoners, in which successful vaccination followed closely upon a previous success. Four cases were in less than one month, nine cases between one and two months, four cases between two and three months, and twelve cases between three and six months.

At North Brother Island, where all patients are vaccinated upon arrival, it has happened that persons sent there repeatedly have been repeatedly vaccinated with success. In two instances success has followed within six months after the first vaccination. There are now at the Island eleven children between the ages of two and one-half and five years upon whom revaccination is "taking." In only one instance is the scar of the primary vaccination a faint one. The others all present good primary scars.

Three or four years ago, I myself made the following test upon 10 children. I performed the primary vaccinations by puncture in four spots each. Each case took typically in all four spots, and I exhibited them before a medical society in illustration of a paper upon methods of vaccination. Nine months later, I revaccinated all of these children in one spot each. Three of them "took," though they ran a mild course. Six days ago I revaccinated 20 children who were first vaccinated 4 months ago, with good takes and good resulting scars. Inspection to-day shows that 4 of these children are "taking," each showign a distinct though small vesicle which will evidently run an abortive course. This, in spite of the fact that control tests of the virus showed it to be of only moderate activity.

As regards susceptibility to revaccination the quality of the scar is an untrustworthy guide. Persons exhibiting poor primary scars are sometimes exceedingly refractory to revaccination; on the other hand it is very frequently possible successfully to revaccinate persons who present fairly recent scars of good quality. It is evident, therefore, not only that vaccination does not confer permanent immunity to revaccination, but that we can never be sure in a given case how long the immunity will last.

The immunity conferred by vaccination against revaccination is often of shorter duration than that which it confers against smallpox; in other words, a person may be successfully revaccinated while he is still immune to smallpox. Edward Jenner discovered this fact very early, and showed that among persons immune to smallpox both by exposure and by inoculation, natural cowpox might be induced again and again. It has already been shown that revaccination is often successful within five, or even two, years after a previous successful vaccination; yet it is well known that the number of cases of smallpox which occur within a similar period is very small.

Sir John Simon in his "Papers Relating to the History and Practice of Vaccination," after showing that 14,384 soldiers had been revaccinated with a success of 33 per cent., says: "Is it a legitimate inference that if these 14,384 soldiers had been exposed to smallpox every third man would have caught the disease? Certainly not. The inoculation of lymph is, so to speak, a finer and more delicate test of susceptibility to the smallpox poison than is the breathing of an infected atmosphere; so that many persons, when the lymph of cowpox is inserted in their skins, will give, locally at least, evidences of susceptibility which no atmospheric infection would have elicited from them. The success of vaccination after remote smallpox is also at least 33 per cent., whereas, notoriously, of persons who have once had smallpox not nearly one-third become afterward capable of contracting the disease again by frequenting the neighborhood of the sick."

A somewhat remarkable instance of an individual immune to smallpox but susceptible to vaccination, is found in the person of the present Resident Physician at North Brother Island. He was successfully vaccinated in childhood, a good scar resulting. A few years ago revaccination took poorly, leaving no scar. At the Island up to last August he had been vaccinated many times with no effect. For the past three and one-half months he has been in daily, intimate contact with the two hundred odd cases of smallpox which have been under his care, a very severe test of his immunity to the disease; yet ten days ago, seven months after his last attempt, he was vaccinated successfully. A distinct vesicle appeared at the

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end of three and one-half days. An areola formed, and the pock ran through the short course of a reasonably good secondary "take," desiccation being nearly complete at the end of a week.

What Constitutes Efficient Vaccination?—The most efficient vaccination may be defined as that which secures to those vaccinated: (1) the smallest proportion of smallpox cases per thousand individuals; (2) the longest duration of immunity among those who finally take smallpox; (3) the lowest mortality among those who contract the disease; (4) the mildest course of the disease and the least amount of subsequent pitting, among those who, having had smallpox, survive it.

In performing vaccination, how many insertions of virus, and what sort of resulting scars are necessary to afford the most complete protection as judged by the above standard?

1. With reference to the proportion of smallpox cases per 1,000 individuals, Dr. E. C. Seaton and Dr. Buchanan made observations, during the smallpox epidemic in London in 1863, upon more than 50,000 persons. Some of these had never been vaccinated, but most of them had been vaccinated in various manners and degrees. Their results appear in the accompanying table:

TABLE II.

		No. Marked with Smallpox per 1,000. 360
1. Having no vaccination scars.		
2. Vaccinated.		
(1) Number of scars		
	(*a*) one scar	6.80
	(*b*) two scars	2.49
	(*c*) three "	1.42
	(*d*) four or more scars	0.67
(2) Quality of scar or scars		
	(*a*) bad quality	7.60
	(*b*) tolerable "	2.35
	(*c*) excellent "	1.22

From this table it appears that the smallest proportion of persons who had had smallpox per 1,000 of persons examined was among those who had been vaccinated in four or more spots and among those who presented scars of excellent quality. As regards the smallpox pitting displayed, without quoting actual figures, the observers noted that the well vaccinated were more lightly marked than the poorly vaccinated.

2. With reference to the duration of immunity to smallpox following different methods of vaccination, R. Cory made observations between the years 1884 and 1887. To avoid the possibilty of error in diagnosis only those cases which were pitted were considered. Of such cases there were 448. The ages at which these persons developed smallpox are shown in the following table:

TABLE III.

	No. of cases.	Average age in years.
Unvaccinated	210	6.58
Alleged to have been vaccinated—no scar	105	9.86
Vaccinated		
1 scar	47	17.77
2 scars	31	17.82
3 "	33	18.02
4 "	12	18.67
5 or more scars	10	19.03

This table, so far as it goes, seems to show that vaccination by multiple insertion gives slightly longer immunity to smallpox than does the one spot method; but the number of cases in each class is too small to give much authority to the table.

3. With reference to the mortality rate in cases of smallpox which have followed vaccination by different methods, it is possible to quote figures covering large numbers of cases.

Gayton, in the Report of the Royal Commission on Vaccination 1889-90, gives the following table upon 7,415 cases of post vaccinal smallpox.

TABLE IV.

No. of Vaccination Scars.	No. of Cases of Smallpox.	Per cent. of Deaths.
1 scar	2,289	5.4
2 scars	2,464	3.6
3 "	1,424	3.1
4 "	1,238	1.6

It is to be understood with reference to this and to the following tables that the columns headed "Numbers of Scars" means the scars resulting from primary vaccination and not the scars of successive vaccinations at different times. This table points strongly toward the conclusion that vaccination by multiple insertion gives better protection than the single spot method.

J. F. Marson, for more than thirty years the Resident Physician of the London Smallpox Hospital, made very careful observations on the number and quality of the scars in all the cases of post vaccinal smallpox which came under his care. During the sixteen years from 1836 to 1861 3,094 cases of smallpox were treated in the hospital. Excluding 63 cases of death from smallpox complicated by other diseases in themselves fatal, he compiled the following mortality table:

TABLE V.

		Per cent of Deaths.	
1. Never vaccinated		35.5	
2. Alleged to have been vaccinated—no scar visible		21.7	
3. Vaccinated.			
1 scar	good quality	4.23	7.57
	indifferent quality	11.95	
2 scars	good quality	2.68	4.13
	indifferent quality	7.29	
3 scars	good quality	1.63	1.85
	indifferent quality	2.32	
4 or more scars	good quality	0.99	0.74
	indifferent quality	0.00	

TABLE VI.

Average mortality of all post vaccinal cases	6.76
" " " " 1 and 2 scar cases	6.21
" " " " 3 and 4 " "	1.30
" " " " good " "	3.04
" " " " indifferent scar cases	9.77

From these observations, Marson deduced the law that the efficiency of vaccination is in the exact ratio of its excellence and completeness as shown by the number and quality of the resulting scars.

During a second period of sixteen years, from 1852 to 1867, Marson continued his observations, the number of smallpox cases treated being 10,661. The results were as follows:

TABLE VII.

	Per cent. of Deaths.
1 Never vaccinated	34.9
2. Alleged to have been vaccinated—no scar visible	39.4
3. Vaccinated—1 scar	13.8
2 scars	7.7
3 "	3.0
4 or more scars	0.9

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The percentages in this table differ somewhat from those in Marson's first table, but they point with equal emphasis to the superior efficiency of vaccination by multiple as compared with single insertion.

W. M. Welch, who for twenty-five years was in charge of the Philadelphia Smallpox Hospital, from a similar study of his cases, confirms Marson's view that the protective degree of vaccination can be measured to a considerable extent by the quality of the scars borne by the vaccinated persons. His experience, however, does not entirely agree with Marson's as to the relative value of multiple as compared with single insertion. The following is Welch's table:

TABLE VII.

	Cases.	Deaths.	Per cent. of Deaths.
Vaccinated	1,668	909	54.49
Alleged to have been vaccinated—no scar visible	258	150	58.13
Vaccinated during incubation of smallpox			
From 1 to 7 days before appearance of eruption	59	25	42.37
Longer than 7 days before appearance of eruption	95	17	17.89
Vaccinated in infancy—one good scar	820	70	8.58
" " " " fair "	451	70	15.52
" " " " poor "	874	256	29.29
Total number showing 1 scar	2,415	396	18.46
Vaccinated in infancy—two good scars	287	20	6.97
" " " " fair "	114	14	12.28
" " " " poor "	102	24	23.53
Total number showing 2 scars	503	58	11.53
Vaccinated in infancy—three good scars	122	10	8.19
" " " " fair "	49	4	8.16
" " " " poor "	51	13	25.49
Total number showing 3 scars	222	27	12.16
Vaccinated in infancy—four or more good scars	251	24	9.56
Vaccinated in infancy—four or more fair scars	81	10	12.34
Vaccinated in infancy—four or more poor scars	97	11	11.34
Total number showing 4 or more scars	429	45	10.49

Summarizing the post-vaccinal cases with reference to the quality of the scars we have

	Cases.	Deaths.	Per cent. of Deaths.
Vaccinated in infancy—good scars	1,480	124	8.38
" " " fair "	695	98	14.10
" " " poor "	1,24	304	27.04
Total number of post-vaccinal cases	3,299	526	15.90

An examination of this table shows that the protective power of vaccination is in proportion to the excellence of the resulting scars. As regards number of insertions, the table shows that one good scar protects better than two, three or four fair or poor scars, and practically as well as two, three or four good scars. Welch thereupon concludes that the quality of the scars following vaccination is a far more reliable indication of the degree of protection than the quantity, and that when the scars are typical it makes no difference whether they are single or multiple.

If, however, we compare the total number of cases vaccinated by the different methods, we get from Welch's own table figures which speak for the superiority of vaccination by multiple insertion. Thus:

TABLE IX.

	Cases.	Deaths.	Per cent. of Deaths.
Total number showing one scar	2,415	396	18.46
" " " two scars	503	58	11.53
" " " three "	222	27	12.16
" " " four or more scars	429	45	10.49

Taking the extremes of the table we have the mortality of the one scar cases 18.46 per cent. while that of the four or more scar cases is only 10.49 per cent.

4. As regards the severity of smallpox in patients who have been vaccinated by different methods and with different grades of resulting scars, Marson in his first series of cases found that (*a*) *as to number of scars,* of 2,245 patients with 1 and 2 scars, 392 or 17½ per cent. had confluent smallpox; of 542 patients with 3, 4 and more scars, 36 or only 6½ per cent. had confluent smallpox; (*b*) *as to quality of scars,* of 1,765 patients with good scars, 196 or 11 per cent. had confluent smallpox; of 1,022 patients with indifferent scars, 232 or 22 per cent. had confluent smallpox.

From all this evidence it seems fair to conclude with Marson, that "test the question in which way soever we will, the result is in favor of producing four vesicles, at least, at vaccination, with lymph which leaves good permanent cicatries."

Revaccination.

Husson and Bousquet, of Paris, believing that the existence of post-vaccinal smallpox was to be explained upon the theory that the immunity afforded by vaccination was after a time lost, were the first to recommend general and systematic revaccination. *That revaccination restores lost immunity is proved* by an overwhelming mass of evidence. It will be sufficient to cite a few figures. Revaccination was first extensively practised in the Prussion army; from 1834 to 1848, out of 425,000 soldiers revaccinated, 46.58 per cent. were successful. In these fourteen years there were but 77 cases of variola and varioloid in the army, and among them not a single death. In 1843, smallpox was epidemic in Prussia, yet in the entire army there were but 12 cases. In Würtemberg, in the early days of revaccination, among 14,284 revaccinated soldiers, only one case of smallpox appeared in five years. Among 26,964 revaccinated civilians, but five cases of smallpox appeared during the same period. During the Franco-Prussian war the German army, numbering 1,000,000, vaccinated and revaccinated men, lost only 459 men from smallpox during the years 1870 and 1871; while the French army, far less numerous, where revaccination was not compulsory, lost 23,400 men from this disesase in the same period.

Again, in Prussia, the mortality from smallpox in 1835 was 27 per 100,000; in 1872 it was 262. In 1874, vaccination and revaccination became obligatory, and the mortality fell at once to 3.6 per 100,000. In 1886 there were 197 deaths from smallpox in the entire German Empire, or

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creased population, the number of deaths had fallen to 110 for the whole year.

Even more significant is the evidence of the smallpox hospitals. Marston states that in thirty years few smallpox patients were admitted who had been revaccinated with effect; and these had very mild varioloid. Among the nurses and attendants, not one who had been revaccinated contracted the disease. Wm. Welch in an experience of 25 years at the Municipal Hospital of Philadelphia found that no physician, nurse or other employé who had been revaccinated before commencing duty developed smallpox or varioloid.

The proposition that *revaccination protects as fully as a previous attack of variola* is proved by the following figures, which I quote from Le Fort: In 1887, in Sheffield, there were 18,121 persons who had already had smallpox, and of these 23 contracted the disease again, that is to say, a proportion of 1.3 per 1,000. Of 63,354 revaccinated individuals, 75 contracted smallpox, a proportion of 1.1 per 1,000.

By the statistics of the same epidemic, this author showed that *a successfully revaccinated person is much better protected than one who has been but once vaccinated;* for, while revaccinated persons contracted smallpox in the proportion of only 1.1 per 1,000, those who had been but once vaccinated contracted the disease in the ratio of 230 per 1,000.

It is evident therefore that if we would preserve vaccinal immunity, revaccination should be performed as conscientiously as primary vaccination. In the absence of an epidemic, this may be postponed until the child is of school age; but if smallpox becomes prevalent it should be performed at once even if the primary vaccination was of recent date.

While it is important that the primary vaccination should be performed in such a way as to give the highest degree of protection, we must remember that after a variable number of years immunity derived from the most efficient primary vaccination is lost. There is no doubt that an adult who was successfully vaccinated in infancy and again at puberty by the one spot method, is much better protected than one whose primary vaccination was performed by multiple insertion, and who has not been revaccinated.

The character of the eruption in revaccination is usually different from that observed in primary cases.

Instances are sometimes met with in which the immunity resulting from the first vaccination has been so completely lost that the pock of the revaccination presents the typical characters of a primary case; but I think the school vaccinators, whose experience in revaccination runs into the hundreds of thousands of cases will confirm the assertion that this is not often so.

As a rule the eruption is at no time so purely vesicular as in a primary case, the pustule and the areola develop earlier, and desiccation is commonly, a successful revaccination has already cicatrized and shed its scab by the end of the second week. The resulting scar is likely to be small, faint and poorly marked. Some cases, however, starting as above, do not dry up quickly, but pass into a stage of more marked inflammation and more severe constitutional symptoms than are usually seen even in severe primary cases.

Instances of very long periods of incubation after revaccination are also reported—the vesicle not appearing until the 10th, 14th, 18th or even 30th day. Persons whose immunity has been but partially lost present marked modifications of the typical vaccinal eruption. To this class of cases, Trousseau and Dumont Pallier, in 1860, gave the name of "vaccinoid," a condition bearing the same relation to vaccinia that varioloid bears to variola. Hervieux accepted this view, and demonstrated in 1893 that vaccinoid transmits by inoculation true vaccinia, and that, like vaccinia, it confers protection against smallpox. Hervieux describes three types of vaccinoid, dependent upon the extent to which the weakening of the immunity has advanced: (1) At the point of inoculation there appears a pink papule, hardly at all elevated above the surrounding integument, and without any areola; it disappears at the end of a few days, leaving no scar. (2) There forms an acuminate papule, larger than that seen in the first type of vaccinoid, redder, more distinctly visible, surmounted by a little vesicle at its point, surrounded by a faint areola, and leaving after desiccation a little scab which falls soon without the formation of a cicatrix. (3) The vesicle is more distinct, the areola is more pronounced, the scab is larger and more adherent and leaves behind it a cicatrix, which, however, disappears in the course of time.

Poor virus will often give a vaccinoid eruption in cases which will respond more nearly typically to virus of high grade activity. This "false vaccinoid," if such an expression may be used, cannot be depended upon to confer complete immunity. In deciding on the value of the result obtained in any given case of revaccination, therefore, the physician should be sure of the efficiency of his virus. It is too often the case that one is lulled into a false sense of security by a vaccinoid pock, due not to partial immunity but to poor virus.

The character of the eruption, then, in revaccination depends upon the degree of immunity conferred by previous vaccination, and upon the quality of the virus employed. If high-grade virus has been used, (*a*) failure shows that the subject is still immune; (*b*) vaccinoid completes a previously partial immunity; (*c*) typical vaccinia restores a completely lost immunity.

If poor virus has been used, the results are unreliable. (*a*) Failure proves nothing; (*b*) vaccinoid gives only partial immunity; (*c*) vaccinia will probably not be observed. If it is, it con-

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fers immunity, and shows that the operator happened to encounter a good streak in a lot of poor virus.

Vaccine Virus.—The Necessity of Having It Tested Physiologically Before It is Issued, and of Retesting It Frequently.

I shall say nothing about the form in which vaccine virus should be issued. I believe, however, that glycerinated virus is the best. I do wish to emphasize very strongly that all virus should be subjected to a rigid physiological test, preferably upon previously unvaccinated children, before it is issued. This is the only way in which its efficiency can be positively established. One would think that, in all vaccine laboratories, such tests would be made as a matter of course, but I believe that much of the commercial virus is not thus tested. Either its efficiency is inferred from the appearance of the eruption upon the calf which furnishes it, or at most, each lot is tested by inoculation in one or two spots upon the next animal to be vaccinated. This, I believe is not sufficient.

The virus with which I have had most experience is tested as follows: it is inserted in three spots upon each of five previously unvaccinated children, and must result in 15 vesicles of good quality and size in order to reach the standard required for issuance. It must take not merely in every *case,* but in every *spot* in which it is inserted.

If virus is to be kept for any length of time it should be retested every month, as it has been found that some virus, though up to the standard at the time of issue, is unaccountably short-lived. The duration of efficiency of glycerinated virus is fairly constantly proportionate to the degree of dilution. A great deal of the commercial virus is far too dilute to retain its efficiency long. That which is issued by the vaccine laboratory of the New York City Health Department is diluted in the proportion of one part by weight of pulp to 3, 4 or 5 by bulk of a glycerin and water mixture, consisting of two-thirds glycerin and one-third water; the usual ratio of pulp to glycerin and water is 1 to 3. The average duration of continuous efficiency in the virus collected in 1896 and 1897 from 117 consecutive animals, as shown by frequent retests upon children was 7.7 months.

Methods of Vaccination.

It has already been shown that four spot vaccination confers the most complete immunity.

Site of Scarification.—In the female subject, the scarification may well be made, for cosmetic reasons, upon the leg instead of the arm. The only objection to this site is that in babies and young children a pock in this situation is more difficult to keep clean. In older persons, it is rather more likely to be sore than when it is situated upon the arm, because the leg cannot be kept so constantly at rest; but these objections are trivial when compared with the misfortune of having to carry through life an unsightly scar upon a member which is so often displayed in society.

The lower and outer part of the thigh is often selected as the site of scarification. If a spot in this region gets very sore, it is difficult to keep a dressing over it, especially in the adult subject. The upper and inner aspect of the leg is sometimes chosen. In this position a very sore pock might interfere somewhat with bending of the knee, and there is possible danger of thrombosis of the adjacent internal saphenous vein.

The best site is probably the anterior-external aspect of the leg, over the uppermost part of the tibialis anticus muscle. A pustule in this position is far enough forward not to be pressed upon when the person lies on the side; it is near no large vein, it does not interfere with bending of the knee, and if it gets very sore a dressing can be easily retained over it. In the male subject, the skin of the upper arm over the insertion of the deltoid is the site of election.

Methods of Scarification.—Many methods have been employed. They may be classified as follows: (1) Puncture, with lancet or hypodermic needle; (2) linear incision, with lancet or needle; (3) scarification of an area by means of lancet or needle; (4) denudation of an area by means of a solution of caustic potash.

Any one of these methods may be used, though I think two of them are open to some objections, namely, (*a*) the hypodermic method. It is difficult to inject merely into the skin. The needle will almost inevitably go though into the subcutaneous tissue; and Chauveau has shown that by this means a generalized vaccinal eruption may be produced; (*b*) denudation of the skin by means of a solution of caustic potash. This is the least painful of all methods of scarification. Great skill is, however, required to avoid denuding too large an area. Moreover, the action of the caustic causes the formation over the denuded area of a parchment-like eschar. This eschar is composed of necrosed tissue killed by the action of the caustic, and, as I have shown in a series of experimental cases, it materially interferes with the absorption of the virus; so that vaccination by this method is likely to be uncertain in its results.

The simplest and best method I believe to be the scarification of *small* areas with a needle. Virus as active as that now being issued by the Health Department of this city will result in pocks of unnecessarily large size if the scarified areas be more than one-eighth inch square.

As to the technic of the operation, a few longitudinal scratches well into the deep skin, are sufficient. It is not necessary to scarify criss-cross. For cosmetic reasons it is well to try to draw as little blood as possible, but it is a mistake to think that any ordinary blood-flow will interfere with the success of the vaccination, if the virus is thoroughly applied.

Outfit for Vaccination.—A convenient vaccinating outfit is one such as is issued by the New

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of caliber corresponding to that of the capillary tube, an orange-wood toothpick with one broad end.

Directions for Vaccination.—(1) Wash the region to be scarified, with alcohol, and let it dry by evaporation. No other cleansing is necessary. (2) Wash the needle point with alcohol, or hold it for a moment in the flame of an alcohol lamp or gas jet, then make a few longitudinal scratches which shall penetrate well into the true skin, over an area not more than one-eighth inch square. The number of spots thus scarified should correspond to the number of vesicles which it is desired to produce. The spots should be at least one inch apart. It is a matter of indifference except for the sake of appearances, whether blood is drawn or not. (3) Break off both ends of the capillary tube, insert one end in the rubber tube, and blow out the drop of virus upon the broad end of the toothpick. (4) Apply the virus to the scarified areas, and scratch it in thoroughly with the sharp corner of the toothpick. It is not sufficient merely to smear the virus on. (5) Leave the limb uncovered for a few minutes until it nas at least partially dried.

After-care.—The best dressing is a very loose sleeve (or stocking), lined with clean linen or with absorbent gauze. The use of shields is of questionable value. Those which tie on are an abomination. If tied tightly enough to stay in place, the arm is uncomfortably constricted; if tied more loosely they slip, and the vesicles are very likely to be destroyed by the hard edge of the shield. Those shields which fasten on by means of adhesive plaster are often left in place too long, the pustules become macerated, and running sores are the result.

A word as to the care of sore arms. In my opinion, an infected and discharging vaccination wound should be cared for, or at least kept under observation by the physician. Many a mother who would not dare attempt to deal with any other infected wound, struggles on bravely, but ignorantly, trying to care for an infected pock, because, forsooth, "it is only a vaccination sore." This mistaken attitude, assumed by the mother, and usually approved of, or at least not objected to, by the physician, is, I believe, responsible for more than half the putrid sloughs and slow-healing ulcers which are so often seen.

There is a very general belief, even among physicians, that the pock, though infected, should not be opened, for fear of impairing the protection afforded by the vaccination. It is, of course, well to avoid breaking the vesicle of a normal uncomplicated vaccination, but remember that destruction of the vesicle does not impair the immunity, and do not hesitate in an infected case to remove the scab, open the pustule, clean the base thoroughly, and treat the wound upon general surgical principles. Much unnecessary suffering may thus be avoided.

is practically unknown.

2. In primary cases, delayed vesiculation, raspberry excrescence, and abortive course, mean poor virus.

3. Among the complications, there is now no danger of transmitting syphilis or tuberculosis. Other infections such as erysipelas, cellulitis, septicemia, etc., are more rare as methods of preparing virus improve, and more care is used at the time of vaccination and in the subsequent management of the case.

4. During the second week of vaccinia, a large painful areola may be considered normal if it be bright red, and if the vesicle be of typical appearance. If tne vesicle be irregular, filled with greenish pus, and the areola be of a dark livid, purplish hue, the case is one of mixed infection.

5. Generalized vaccinia, aside from cases in which the eruption is spread by auto-inoculation, is rare. Cases of doubtful diagnosis may be tested by the inoculation of lymph from one of the vesicles into another subject. If it be true generalized vaccinia, a localized vaccinia will develop in the inoculated person.

6. The destruction of the vaccine vesicle does not interfere with the immunity conferred by the vaccination.

7. Immunity is acquired about the time the areola is at its height—eight to ten days after vaccination. If smallpox appears at this time it will be mild. If the eruption appears before the vaccination has reached the areolar stage, the disease will not be much modified by the vaccination.

8. Vaccination of the pregnant woman does not protect her child.

9. The fetus *in utero* may have smallpox, if the mother has it, and may be born with an active rash or with healed scars. A child born while the mother has smallpox is not only not protected, but has been exposed *in utero,* and will probably develop the disease before there is time to secure protection by vaccination.

10. The duration of immunity to smallpox which is conferred by vaccination is extremely variable, and in the presence of an epidemic, the fact of recent successful vaccination is only presumptive evidence of immunity. Of persons successfully vaccinated within five years, very few will contract the disease; but some will, thougn they will probably have varioloid instead of severe smallpox.

11. The duration of immunity to revaccination which is conferred by vaccination is also extremely variable, and is probably short (two years or under) in a larger proportion of cases than has been supposed.

12. The protective power of vaccination is in direct proportion to its excellence and completeness as shown by the number and quality of the resulting scars. Of the two elements which enter into this protective value, quality of scars is more important than number.

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13. While the quality of a scar is a fair indicator of its protective power against smallpox, it is an untrustworthy guide in deciding whether the individual is susceptible to revaccination.

14. A person who is immune to smallpox can often be successfully revaccinated.

15. Revaccination protects against smallpox as fully as an attack of the disease protects against a subsequent attack.

16. A person who has been successfully revaccinated is much less likely to contract or to die of smallpox than a person who has been vaccinated only once. The more successful vaccinations one has had at different times, the more certain is his immunity, and the better his chance of recovery if he does contract the disease.

17. Revaccination, therefore, should be considered as important as primary vaccination, and should be just as systematically practised.

18. Primary vaccination should be performed in infancy, revaccination at school age. In the presence of an epidemic, however, revaccination should be performed even though the primary vaccination was of comparatively recent date.

19. The eruption in revaccination is more likely to follow the type of vaccinoid, than that of typical vaccinia.

20. Vaccinoid protects if the virus used is of high-grade efficiency. If the virus is poor, only partial immunity is conferred.

21. All vaccine virus should be subjected to rigid physiological tests before issuance. It should be retested monthly, so long as it is on sale. The virus from each animal should be kept by itself and numbered. It should be known by this number when issued so that it can be called in if retests show that its efficiency has expired.

22. Vaccination should be performed under aseptic precautions.

23. It is not sufficient merely to smear the virus upon the scarified areas. It must be thoroughly rubbed or scratched or pricked in.

24. Vaccination shields often do more harm than good.

25. Cases of infected vaccination should be cared for by the physician and not by the mother.

26. Remember that the destruction of the vesicle does not impair the protective power of vaccination, and if signs of mixed infection appear, open the vesicle, cleanse the wound and treat it upon general surgical principles.

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33 West 93d Street.

THE METHOD OF PREPARATION OF VACCINE VIRUS IN THE VACCINE LABORATORY OF THE NEW YORK CITY HEALTH DEPARTMENT.

BY J. H. HUDDLESTON, M.D.,
OF NEW YORK.

THE vaccine virus at present used by the Health Department is entirely animal. It will doubtless be remembered that Galbiati began the use of bovine virus in 1803 in Naples, and that his successor, Negri, introduced the practice in Paris in 1864; that in 1870 animal vaccination was brought to this country, and that in 1876 it was adopted as the uniform practice of the Health Department of this City.

The reasons for the preference of animal virus to human virus are that with the former, first there is less possibility of the communication of disease, especially of syphilis, and, second, it is not necessary to open, or in any way mutilate the vesicles on the arms of children, and, therefore, there is less possibility of a late infection occurring in them.

The animals used are calves. While goats, sheep, pigs, and several other animals are susceptible to vaccinia, and can furnish in an emergency a virus which will produce the typical disease in the human body, they are all inferior to calves and cows in the amount of virus, or the typical character of the vesicles produced, or in the ease with which they can be handled. With reference to the choice between calves and older animals of the same species, decision rests on the fact that the calves have a softer skin and the vaccine vesicles on them run a more typical course. The calves are chosen for their health and good quality of the skin; this means that they receive a careful examination before vaccination. After vaccination they are killed and their organs are examined for possible disease. If disease is found at their entrance into the laboratory, they are not vaccinated. If disease is found at autopsy the virus obtained from them is rejected.

The diseases that are considered of practical consequence are tuberculosis and skin disease, for although it has never been demonstrated that tuberculosis has been conveyed by vaccination it is easy to avoid the suspicion that it may be. There have been reported from abroad some cases of skin disease which were thought to have been inoculated with virus coming from calves having skin disease. For safety's sake, therefore, only healthy calves are chosen.

The calves are females so that the urine being discharged behind the animal the stall may be kept clean. After the animal is cleaned, and that means that the skin is curried, brushed and washed, and that the hoofs are scrubbed, the animal is placed on a bench, on its side, with one hind leg fastened in a vertical position, and the skin over the posterior abdomen and on the inside of the thighs is shaved. This particular part of the skin is chosen because it is found by experi-

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ing-room, which, it may be said in passing, has a cement floor, glazed brick walls, and the same operating furniture that is found in a hospital operating-room. Here the calf is covered with towels except that portion of the skin on which vaccination is to be made, and this portion is washed with soap and water and with alcohol. This is, of course, not a notably antiseptic preparation. It has been found that treating the skin so as to make it as nearly as possible aseptic, for it cannot be made by any means entirely aseptic, simply roughens the skin and makes dirt adhere to it more firmly during the week in which the part must be largely unprotected.

On this clean skin is then made a series of superficial incisions, about one quarter of an inch apart, and covering the entire shaven area. Linear incisions are preferred to scarifications because with the former more typical vesicles result and a larger amount of virus is secured; they are preferable to punctures because the former yield more virus. The incisions in some cases draw blood enough to show a red line, in other cases they do not show red at all; they are made superficial because deep incisions are found to be more apt to become infected, and because they cause more pain to the animal. Into these incisions the seed virus is rubbed. This seed virus is either humanized virus collected by touching sterile pieces of bone to the serum exuding from ruptured vesicles on the arms of children, or, in the great majority of cases, bovine glycerinated virus, which has been preserved two months or longer. It has been found that fresh bovine virus when used as seed produces some sort of infection of the animal with consequent degeneration of the virus, whereas old virus is free from that objection.

No cover is placed over the vaccinated area, for although covers have been contrived, and although there has been much experimenting done in this direction in Germany, as well as in this country, nothing has been found which will stay in place satisfactorily, and in those exceptional cases in which a cover does maintain its place it is not found that the virus is any more free from extraneous substances than when the only cover is the natural crust.

The animals are well cared for and fed on milk, their temperature and general condition is watched closely, and usually on the sixth day after vaccination, sometimes on the fifth, rarely on the fourth, and rarely on the seventh, the virus is collected. For this purpose the calf is again placed on the table in the operating-room. The vaccinated area is cleaned and the vesicles, which have formed, are scraped from their beds with a sharp curette. This pulp is weighed and emulsified by running it through a mill on which a mixture of 66 per cent. of glycerine and 33 per cent. of water flows. This proportion is chosen because pure glycerine has an antiseptic effect on water is usually one to three. It is sometimes one to four, and sometimes one to five. Sometimes the pulp is found to be rather watery, and in that case less glycerine and water is necessary. Sometimes it is rather solid, and then more can be added. Proportions as small as one-to-ten or one-to-fifteen have still been found efficient, but as a rather dilute virus cannot be considered as certain in its action as a more concentrated one it has been thought wise to keep the percentage of virus in the emulsion high.

This emulsion is drawn into large glass storage tubes, which are sealed at each end by flame, and is preserved in these until needed for use. It is then poured from the tubes into vials, which are used when many persons are to be vaccinated at one time, or poured into small receptacles from which capillary tubes are filled, when the vaccine is to be used for one person at a time.

Every lot of virus issued bears stamped on it the number of the calf from which it was taken, and the date of collection. Before issue it is tested as to its efficiency by use on five previously unvaccinated children, and after issue watch over its efficiency is maintained by retests made at more or less regular intervals.

It is always found that the fresh virus and the fresh emulsion contain large number of saprophytes. It is impossible by any means to get fresh virus without these organisms, but the great majority of them die out in the glycerine emulsion in the course of a few weeks. Some persistent ones may last one or two, or even three or four months, but they are non-pathogenic.

MEDICAL PROGRESS.

Treatment of Pneumonia.—With the exception of typhoid fever, few subjects in therapy have caused so much discussion as the treatment of pneumonia for while a suitable antitoxin is still lacking, all measures must naturally be empirical or symptomatic. H. Passler (*Münch. med. Woch.*, Feb. 19-26, 1901) warns urgently against falling into any routine plan of treatment and by pointing out the various way in which a pneumonia may kill indicates how Nature may be supported. Death may ensue (1) by direct asphyxiation, the surface of lung remaining uninvolved being too small to lead to proper oxygenation of the blood. Such cases are, however, rare; (2) through failure of the right heart on account of the increased resistance offered to the pulmonic circulation. This occurs less frequently than is generally supposed for high-graded dyspnea and cyanosis with edemas and increased cardiac dulness, which would naturally follow, are not often observed before death and the danger to life stands by no

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means in direct relation to the amount of lung-tissue implicated; (3) complications frequently settle the fate of the patient. The most important of them are chronic alcoholism, cardiac disease and advanced age. But all these factors are subservient in importance to the last; (4) the developing of a pneumococcus sepsis with a resulting paralysis of the vasomotor centers. It is this cause which so often proves fatal to young and healthy individuals who at first seem to have the best chances for recovery. The first principle in treatment should be to prevent the spreading of the inflammation. Local applications to the chest in the form of moist packs, ice-bags, cupping or mustard plasters, by diminishing the pain, will do much to accomplish this end since the respirations are rendered more effective and stagnation of infectious matter is prevented. Should such methods be insufficient it is proper to give small doses of morphine which also act as expectorants. High temperatures require lukewarm or cold baths. but a clouded sensorium is a still greater indication for them. The surest way of relieving overfilling of the right heart is venesection. Alcoholics require whiskey in sufficient amount to sustain them and bromides with opium rather than chloral, which always depresses the vasomotor center, may be in place. With the onset of the first symptoms of cardiac insufficiency the free use of digitalis or digitalin becomes absolutely necessary and in all cardiac cases the dietetic treatment plays an important part. But few remedies stand at our disposal when sepsis appears, it is then merely possible to stimulate the circulatory system with strychnine, digitalis, salt infusion, and last, but not least, caffeine, which has an especial tonic action on the vasomotor center.

Suprarenal in Hemoptysis.—The necessity for a prompt and reliable remedy, free from toxic or unpleasant after-effects, to control hemoptysis has led W. B. KENWORTHY (*Med. Rec.*, Mch. 16, 1901) to try suprarenal extract. In fourteen cases the hemorrhage stopped quickly, and in only one case did it continue beyond fifteen minutes after the first dose. There was also decided strengthening and slowing of the pulse, lessening of cough and expectoration, and marked improvement in respiration. The writer gives powders of gm. 0.2 (gr.iij.) every half-hour until three are taken; then every two hours until three more are taken; then three times a day for a week. He orders them taken dry on the tongue, chewed, and swallowed without water.

Staining of Plasmodia.—G. MAURER (*Münch. med. Woch.*, Feb. 26, 1901) recommends the following modification of the Romanowsky stain for plasmodia. A one-per-cent. aqueous solution of medicinal methylene blue with one-half of one-fourth-per-cent. of soda is allowed to stand for from two to three weeks at 37°C. or for from four to eight days at 60°C. Then a one-tenth-per-cent. aqueous, yellowish, water-soluble solution of eosin is prepared; 15 drops of the first solution are then added to 25 c.c. of water, 15 drops of the second to another 25 c.c. of water; both dilutions are then poured together and the slide immersed for from thirty to forty-five minutes. The red cells will appear pink; the platelets, dark carmine; the nuclei of the leucocytes, dark red and their body red; the nuclei of the lymphocytes, dark red, their body blue with red granules, while the malarial bodies appear blue with red centers. With the tertian parasite peculiar red dots appear in the erythrocytes with this stain.

Typhoid Fever.—Of 137 cases treated at the Royal Victoria Hospital in Montreal, and reported by D. B. GILLIES (*Montreal Med. Jour.*, Feb., 1901) the average age was twenty-four years, ranging from two and one-half to sixty-one. The largest number of cases was admitted during June, the smallest during March. The most frequent symptoms at onset were anorexia, general malaise, and frontal headache. One case began like pneumonia; in 12.4 per cent. a rigor occurred at onset or in the first week; 25 per cent. began with diarrhea; 26 per cent. with vomiting; 13 per cent. had delirium; one case acute mania, and 24 per cent. had epistaxis. The "rose spots" were present in 69 per cent.; in 2 cases there was diffuse erythema; in 4 cases a purpuric rash, and in one a rash of macules, papules, and petechiæ. The spleen was palpable in 61 per cent. and earliest felt on the fourth day. There were 5.4 per cent. of relapses. In one case the maximum temperature was 100° F. Perforation occurred in 4 cases, jaundice in 2, cholecystitis in one, meteorism in 20 per cent., and intestinal hemorrhage in 12 per cent., in four of which it was fatal. Systolic murmurs were heard in 11 cases; acute dilatation of the heart occurred in two, femoral phlebitis in five on the left and two on the right side and brachial phlebitis in one case. The lung complications were acute bronchitis in 18 per cent.; dry pleurisy, pleurisy with effusion, tuberculosis, and acute lobar pneumonia. There was hematuria in 2 cases, febrile albuminuria in 10 per cent., acute nephritis in 3 cases, suppurative otitis media in 4, abscesses in 6, periostitis in 3, arthritis in one, superficial gangrene in 2, and tender toes in 10 cases. The Widal reaction was negative in only one case, but was not recorded in 4 cases. It appears earliest on the fourth day, and latest on the thirty-third day. On the day of discharge the reaction was present in all but 6 of 96 patients. Ehrlich's reaction was found in only 34 per cent.

Prophylaxis by Antitoxin.—P. R. BLAKE (*Lancet*, Jan. 26, 1901) reports absolute prevention in 35 patients. In 31 patients no reaction followed injection; in no patient did any local lesion occur at site of injection. In the 4 patients in

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pearing only to vanish in a few days.

Arsenic in Spleno-Medullary Leucemia.—CHARLES HEATON (*Lancet*, Jan. 26, 1901) cites an unusual case of tolerance to this drug when injected hypodermatically and with a weak solution of Eucaine B. The patient had been taking liquor arsenicalis in very small doses; m ij-iij by mouth, t. i. d., but gastric irritation prevented its continuance. The total number of days of treatment was 271, including intervals amounting to 58 days, and the total amount of hypodermatic administration was: Arsenious acid, 5½ grains; arseniate of soda, 105 grains. The maximum dose was 2⅔ grains of arseniate of soda, equivalent to 4 drams 26 minims of liquor sodæ arseniatii. Twenty minims of a 1:500 solution of Eucaine B., in which the arsenic salt was dissolved, together with the use of a very fine needle did away with any pain which might otherwise have accompanied the treatment. It is interesting, however, to note that despite the use of these heroic doses there was no paramount improvement, this case seeming to show that arsenic is, at best, no more than palliative in this obstinate blood discrasia.

Caustics and Cancer.—J. COURTIN (*La Gynecologie*, Feb. 1, 1901) aside from the surgical extirpation of the cancerous uterus reviews the methods and usefulness of caustics as therapeutic measures. They have the advantage of being within the reach of those whose surgical experience is limited and of coming into the field when operation has failed or can not be done, but the disadvantage of almost always provoking violent and incontrollable spread of the disease if used on early nodules. It is therefore best to use cauterization and its adjuvants curetting and partial extirpation only when the disease is so extensive as to defy total removal. The actual red-hot iron is a more efficacious instrument than the electric or the Paquelin cautery for such duty as this. Chemical caustics are either injected into the cancer substance or in the form of pencils embedded in it. Chiefly used in this way are the acids, acetic, sulphuric, hydrochloric, nitric, chromic and phenic. All have the advantage of compelling frequent dressings which are in themselves of service. Bromine from 1 in 16 to 1 in 5 parts in solution is occasionally employed, that which escapes into the vagina must be neutralized there by bicarbonate of coda. Arsenious acid, grm. 0.20; cocaine, grm. 1.00 and water to 100.00 grams is in the writer's experience a most valuable formula for injecting. A judicious use of caustics will keep an inoperable cancer clean, odorless and as near a healthy granulating surface as its nature can permit.

Tuberculosis.—C. F. MARTIN and F. T. TOOKE (*Montreal Med. Jour.*, Feb., 1901) find many cases of tuberculosis which give few or no outward signs of disease. There is a type with slight persistent hacking cough and little mask the signs. Some cases begin as acute bronchitis and others give a long history of repeated "bad colds." Some have been treated for anemia, others for neurasthenia, and many for gastric disease. Pains in the stomach and diarrhea were most common in these masked cases. Fistula *in ano* is always suspicious. Certain cases with marked involvement and symptoms have no fever; and some with proper food and rest may gain from week to week even with marked daily fever.

THERAPEUTIC HINTS.

Atropine in Hyperchlorhydria.—ANTONIO STORET, after a series of investigations, concludes that atropine, whether given by mouth or hypodermically, produces as its first effect a constant and characteristic diminution in the gastric juice. However, after several days its power is lost, and the hyperchlorhydria is as bad as ever. At the same time certain disagreeable sensations of motor activity of the stomach supervene. The dose used was gm. 0.0005 (gr. $^1/_{130}$) given half an hour before the meal.

Vomiting After Anesthesia.—During the first 6 to 12 hours give one to two teaspoonfuls of toast-water or hot water, writes HUNTER ROBB (*Cleveland Med. Gaz.*, Feb., 1901) and keep the head on a level with body. For persistent nausea give 2 or 3 tablespoonfuls of hot water with gram 0.7 (gr. x) of sodium bicarbonate. Repeat every hour when necessary and apply mustard to epigastrium. Lavage may be of advantage in some cases, and treatment for constipation or tympany is always indicated. As a last resort a hypodermic or morphine over the epigastrium may relieve the extreme retching. The persistence of vomiting for 3 or 4 days after operation is very suggestive of peritonitis.

Epilepsy.—TOULOUSE recommends the administration of sodium bromide and at the same time reducing to a minimum the sodium chloride ingested. Bunge states that 1 or 2 grams (gr. 15-30) a day of the latter will suffice for an average man, though many ingest as much as 20 or 30 grams (ʒv-viii). If this surplus salt is replaced by sodium bromide the life processes continue normal, and in 20 of Toulouse's cases the aggregate diminution in the attacks amounted to 92 per cent. He advises the following diet. 7 a.m., milk, 250 c.c. (ʒviii); 11 a.m., coffee and two cakes made with eggs, farina, milk, and sugar; 3 p.m., porridge mode with farina, sugar, boiling milk. etc.; 5.30 p.m., bouillon unsalted, boiled beef unsalted, potatoes, fresh beans or peas, fruit in moderation. He gives grams 2.0 (gr. xxx) of sodium bromide daily.

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SATURDAY, MARCH 30, 1901.

THE BELLEVUE HOSPITAL REPORT.

WE publish in full this week the report of the Medical Board of Bellevue Hospital, which has been the subject of so much discussion. The abuses that have been hinted at, the reforms that have been suggested, the radical change of methods that are needed are herein succinctly set forth.

We by no means underestimate the value of the improvements that have taken place as a result of Commissioner Keller's investigations, and we fully appreciate the fact that Bellevue's palmiest days never touched anything like the present standard of perfection. Yet we are mindful of the fact that this report is an accurate statement of conditions that existed a few months ago, and we are also aware that Commissioner Keller's term has not many more months to run. When his energy and coöperation are removed will this upward tendency degenerate down to the conditions on which this report is based? We have seen too many reformers, who, like

"The King of France with forty thousand men
Marched up the hill and then marched down again,"

and we fear that unless the reform is assured the hospital will retrograde and sink into the hands of the politicians who at present have discretion enough to "lay low and keep on sayin' nuffin'."

The work of the Charter Revision Committee is slowly being rounded out and we trust that the trustee system which is there advocated may soon be put in operation in this, one of the city's grandest possibilities.

THE SEMICIRCULAR CANALS.

MOTOR troubles consequent to lesions of the semicircular canals of the ear have formed the groundwork of a series of hypotheses relative to the functions of these organs. Many of these hypotheses are characterized by their extreme ingenuity, yet it cannot be said that this question of physiology has been thoroughly made clear. The fundamental questions seem to be, are the troubles which follow section and destruction of the semicircular canals due to their absence, to the paralysis of any organ, or are they to be classed as reflex phenomena, determined by some form of mechanical irritation?

An ingenious method of experimentation has been recently utilized by G. Gaglio of the Pharmacological Institute of Messina (*Archives Italiennes de Biologie*, Vol. 31, p. 377). By the use of cocaine thrown directly into the semicircular canals, he believes that he can thus bring about a temporary abolition of their function and in this manner can determine, in part at least, what that function is.

Experiments first made on pigeons, by sectioning the various canals and then applying cocaine, demonstrated that the application of the cocaine did not markedly modify the motor disturbances which were induced by sectioning and further research brought out clearly that the action of the cocaine induced a set of symptoms similar to that produced by the destruction of the organs in question. The pigeons were unable to fly, staggered, and made incessant oscillatory movements of the head lasting for about one-half hour, coincident with the stage of anesthesia produced by the cocaine; the ability to fly was the last power regained. Vomiting or attempts at vomiting were noted.

From these experiments and many others, the author comes to the conclusion that it is idle at the present time to formulate hypotheses concerning the function of the semicircular canals. Many more facts are needed.

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motor symptoms characteristic of section or destruction of these canals are due to the suppression of a definite function and are not reflex acts induced by sensory or traumatic irritation.

A SOCIETY FOR THE STUDY OF PRACTICAL HYGIENE.

THE reports of the officers at the annual meeting of the "Society for Instruction in First Aid to the Injured," on Friday, February 15, 1901, showed such a magnitude of work accomplished that the founders of that society must be exceedingly gratified.

Many lives have undoubtedly been saved, and an immeasurable amount of suffering avoided by the services of graduates of those classes. The knowledge of what to do in emergency cases, until a doctor arrives, is often the means of keeping intact the thread upon which a life hangs. Furthermore, the greater intelligence regarding the treatment necessary for various surgical conditions has rendered the laity much more ready to submit to a rational procedure than they often times were before the origin of this society. Is the time not now ripe for the formation of a Society for Instruction in Practical Hygiene? The stopping of a hemorrhage or the resuscitation from asphyxia by artificial respiration is most dramatic and the results are the more gratifying because so evident, but nevertheless the intelligent prevention of disease by a knowledge of the manner of communication is fully as important and could be made of use every day by every member of the society. The wide dissemination of an understanding of the practical laws of hygiene would be of more weight with legislative bodies toward the enactment and fulfilment of sanitary laws than any amount of political maneuvering. Six or eight lectures would give a class a correct and working idea of the general principles of preventive medicine. Physiology, therapeutics and materia medica would all need some attention. The idea being, not to teach how to diagnose or how to prescribe drugs, but rather to explain the difficulties encountered by the physician; that what the patient often considers the disease is but a symptom and that the dose for one man may be double what another man needs, or not the right drug at all, even though they are both suffering from the same known micro-organism could be studied more in detail. The various processes of sterilization, and the practical ways of preventing the spread of tuberculosis and typhoid fever, would, of course, be of great value to every one.

MARRIAGE, INSANITY AND THE LAW.

THE law-makers of the State of Minnesota are contemplating a step to check insanity by making it illegal to marry without a physician's certificate as to the saneness of mind of the contracting parties, and the soundness of intellect of both their families. At first sight it seems somewhat difficult to legislate for such an end, for here the physician must certify that no brother or sister, father or mother or even grandfather or grandmother, was afflicted with chronic imbecility or insanity; and the minister who marries two people without such a certificate showing a sound condition of mental health in both families is liable to a fine of $1,000, or not more than five years' imprisonment.

Whether or not the bill, if passed, will fit all cases, or whether it will force a large number who have afflicted relatives to take a wedding trip to another State for the marriage ceremony, is not the issue. There are so many exceptions of congenital or accidental insanity, of epilepsy not due to hereditary causes—in fact, good authorities ascribe the affection in nearly 70 per cent. of the cases to trauma during birth—and of imbecility that has no connection with the family history, that the law would undoubtedly strike many whose marriage might be perfectly safe.

The real issue is, will such a law tend to decrease in the coming years the increasing number of those who are now flocking to the insane asylums of the State? Senator Chilton who introduced the bill and many of the physicians of the State who are strongly in favor of its passage, urge that it will be of undoubted benefit, as so many of the children that become public charges are the offspring of parents who were, either or both, tainted with insanity or imbecility.

The fact that the thoughtful consideration of *mental health* which physicians have so often, but vainly, urged, has become a sentiment so widely spread as to enable a bill to pass the Senate of the State is at least a sign of a popular awakening to a realization of the

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horrible statistics of the slow but sure results of such indiscriminate marriages.

If there were any way of shortening the effect of time and presenting human experience to individuals in a rapid series of vivid consecutive pictures of cause and effect, the people would be the first to cry out for laws to protect them. No one questions the laws that prevent leprous, cholera and plague patients from entering our communities and mingling with the people, because the fatal consequences follow so quickly that the people learn their object lesson with revolting horror. But could they see in as many days, as it takes years, the development of insanity, the slow, pitiful suffering of the unfortunates and the horror and anxiety and heart-break of their friends in the cases that spring, with the fatal regularity of statistics, in the children and grandchildren and great-grandchildren of a person who has insanity in his family, if these could be presented to the people as vividly as the physician sees them, there could be no more telling object lesson, and one would as readily share his marriage-bed with a leper or a plague-patient as with a person directly tainted with insanity.

Although the law may bungle, and the neighboring States may help people to evade it, yet it is sentiment in the right direction, for if the problem of heredity could be cut out of insanity half of the existing asylums might be turned into "fresh-air" resorts.

ECHOES AND NEWS.

NEW YORK.

Roosevelt Hospital.—It is reported that Dr. Walter B. James has been appointed as Visiting Physician to Roosevelt Hospital to succeed Dr. Francis Delafield.

Anti-Hypnotism Bill.—The bill of Mr. Babcock aimed at the practice of hypnotism, mesmerism, suggestive therapeutics, and allied phenomena was the subject of a hearing before the Assembly Public Health Committee on Wednesday.

Reception to Dr. Dana.—The Medical Club of Philadelphia gave a reception to Dr. Charles L. Dana of this city Friday night, March 29th.

Secretary of Health Bureau.—Dr. Daniel Lewis, of New York, State Commissioner of Health, has appointed Dr. William E. Johnson, of Waverly, Tioga county, formerly State Senator, as Secretary of the Bureau of Health. The salary is $2,500 a year.

West Side Burglars.—Those burglars noted in the MEDICAL NEWS of last week entered the house of Dr. Brill this week and stole some valuable jewelry.

New York Academy of Medicine.—At a stated meeting of the Academy on April 4th, the order will be as follows:— Subject: "The Duty of the Public to the Medical Profession." Paper by D. B. St. John Roosa, M.D., LL.D.; paper by W. H. Thomson, M.D., LL.D.; discussion by Drs. A. H. Smith, F. R. Sturgis, A. Jacobi, F. P. Kinnicutt, and others.

The American Laryngological, Rhinological and Otological Society.—Owing to an oversight the dates selected for the Annual Meeting of the American Laryngological, Rhinological and Otological Society are the same as those of the American Climatological Society. The American Climatological Society is to meet in Buffalo, and, owing to the crowded condition of Buffalo during the Exposition, it would be difficult for them to change their date. It has therefore been decided to hold the Annual Meeting at the New York Academy of Medicine in the City of New York on May 23, 24 and 25, 1901.

Certificate for Pure Milk.—The Milk Commission of the Medical Society of the County of New York had a meeting last week at the Academy of Medicine. About forty milk dealers were there. The commission agrees to guarantee or certify the milk of all dealers desiring such certificate. The standard required will be that the acidity must not be higher than .2 per cent. and that the milk must not contain more than 30,000 germs, or bacteria of any kind, to the cubic centimeter. The butter fat must reach 3.5 per cent. Labels will be supplied to dealers who pay for the cost of inspection.

PHILADELPHIA.

Epidemic of Pinkeye Threatened.—A number of cases of this disease have lately appeared and it is apparently increasing in prevalence, one practitioner having seen six cases in one forenoon. The city has not had a severe epidemic of this disease for several years.

Hospitals to Receive Little State Aid.—The chairman of the State Legislative Appropriation Committee has stated that the appropriations for hospitals this session will be cut down because of the heavy expenses connected with the new State Capitol at Harrisburg. In addition to the charge against the West Penn. Hospital in Pittsburg, noted in this column recently, a number of Grand Army men have filed a complaint that Grand Army members are turned away from the institution though there is a fund supposed to be expressly for their care at this hospital. Charity patients have also made complaints. Inquiry may terminate in a formal investigation.

Dr. Wyeth to Speak in Philadelphia.—The guest of honor at the Academy of Surgery April 1st will be Dr. John A. Wyeth of New York, who

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Pennsylvania Hospital Officials Answer Mandamus.—The authorities of the Pennsylvania Hospital in answer to the demands of the court in the case of Miss Mariane H. Wood, the nurse who seeks reinstatement, state that they are not legally bound to reinstate Miss Wood, because she was an employee, subject to discharge at the discretion of the officials. The hospital was incorporated solely for the purpose of caring for the sick and insane and the training school for nurses is not a "third department" of it. They deny that Miss Wood has had no hearing nor opportunity for hearing and also refute her claim of a conspiracy against her.

Forceps as Rotators.—At a recent meeting of the County Medical Society Dr. Richard C. Norris spoke on the management of cases of arrested posterior position of the vertex. In the hands of the general obstetric practitioner podalic version is the best working rule. In cases where forceps are necessary Dr. Norris has for the past three years been using them as rotators with gratifying success. No extensive lacerations of the soft parts are caused and the child is exposed to no greater danger than by other procedures. The Tucker solid blade instrument is used for this purpose.

Partial Hysterectomy for Necrosis of the Uterus.—Dr. Barton Cooke Hirst reports two cases of recovery from streptococcic puerpural infection and necrosis of the uterus which he believes were due to the character of the operation employed. Only the softened, necrotic area of the uterus was removed instead of doing a total hysterectomy as formerly. The procedure is offered as being more quickly and easily done and productive of less shock to the patient.

Neurological Society.—At the meeting of March 25th Dr. F. X. Dercum exhibited an interesting case of epiphysitis with hysterical joint manifestations added. The patient was a man of thirty-seven years who has had pain in the left shoulder since he was ten years of age. The upper half of the left arm is more than two inches shorter than the right. This is the third case of epiphysitis with arrested development coming under the notice of Dr. Dercum, one of the others following an attack of scarlet fever.

Dr. William C. Pickett read a report of observations concerning the scapulo-humeral reflex of Von Bechtern. Studies were made on 122 cases of hemiplegia, tabes, etc. In 40 cases the reflex was not obtained. Dr. Pickett found that adduction and external rotation which are Von Bechterew's typical signs were not so common as were abduction and slight flexion of the elbow. The presence of the reflex is considered significant, but its absence is of uncertain value.

CHICAGO.

Vaccination Decision.—Judge Dunne has decided that school authorities have no right to necessitates guarding from smallpox is shown to exist.

Chicago Medical Society.—At a meeting, held March 20th, the subject for discussion was neurasthenia. Dr. L. Harrison Mettler read a paper on the pathology of neurasthenia in which he took the ground that this, like all the so-called neuroses or functional diseases of the nervous system, has a pathology because function and structure are so intimate and interdependent that disturbance of the former presupposes alteration of the latter. The pathology of neurasthenia is confused, even in its conception, by the uncertainty surrounding the meaning of the word neurasthenia. Nerve exhaustion, if secondary, is often only the manifestation of deleterious influences, both inside and outside of the body, upon a sympathetic and highly responsive nervous organism. Such a neurasthenia will, of course, include in its pathological findings many extra-neural alterations, such as anemia, hyperemia, enteroptosis, auto-intoxication, gastro-intestinal catarrh, blood changes, phosphaturia, oxaluria, and almost every known pathological condition, local and general, familiar to medicine. Therefore, in true primary neurasthenia the pathology must be sought in the molecular or chemical conditions of the nerve elements or neurons. Little that is certain is known about these intraneural changes. As to the pathology of the congenital form of neurasthenia, one can say absolutely nothing. There is a pathology, therefore, of nervous exhaustion, but knowledge of it, at the present time, is only a matter of inference, founded upon experimental research.

Etiology of Neurasthenia.—Sanger Brown stated that refinements in business methods, with the development of devices providing means of constant intercommunication, expose the business man to incessant drafts upon his capital of nervous energy; while keenness of competition, the added responsibility of success, as well as the anxiety and depression incident to failure, all contribute to nerve bankruptcy. Indeed, in this connection the excessive indulgence in venery, sometimes practised by the overworked business or professional man, might consistently be termed neurogenic defalcation, or in lesser degree peculation. But if the increasing complexities of modern civilization offer a menace to the neurons of business and professional men which may fairly excite concern, what shall be said of their effect upon the neurons of the modern society woman, with her perpetual breakfasts, luncheons, receptions and card parties; her clubs with their educational, municipal and philanthropical departments? And even under the weight of these great burdens, yielding to primitive impulses, she may attempt to divert some energy to the family circle, as, for instance, personal supervision of the housekeeping, the training and education of her children, etc. In her efforts to meet all these demands, besides many others, her liability to

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neurasthenia is positively alarming, and accordingly sooner or later she is likely to register at a rest cure. Some of the severest cases of neurasthenia develop rather rapidly after an emotional or physical shock, and when these causes act coincidentally, their influence is powerfully intensified. The symptoms supervene sometimes within a few hours, sometimes within a few days or weeks of the exciting cause. He has repeatedly seen undoubted cases of severe and protracted neurasthenia result from these causes alone or combined, when there could be no possible motive for deception. Now and then cases are met with in which well-marked symptoms have developed independent of any exciting cause—cases which, in the present state of knowledge, may properly be termed idiopathic. As to predisposing causes, age may be first considered. The active period of adult life furnishes a large majority of the purer cases, mainly because at this time the individual exposure to exciting causes is at its height. There is a large and perhaps increasing proportion of individuals in every civilized country, mainly among the middle and upper classes, in none of whose organs actual disease can be demonstrated. They are not insane nor yet imbecile; but they lack endurance and stamina to such an extent that they are always more or less dependent on some one, no matter what educational and hygienic advantages may have been extended to them. The condition is permanent. It may have been present from birth, in which event it might properly be regarded as congenital or hereditary; or it may have resulted from some severe disease occurring during the period of development.

Treatment of Neurasthenia.—Dr. Archibald Church read this paper. In practice male and female neurasthenics must be treated differently, although their cases may be comparatively similar. In a case of marked neurasthenia in a woman the rest cure may be undertaken with a fair prospect of its resulting favorably. The keynote in the rest cure is isolation. It is important to place the patient in an entirely different atmosphere and under different surroundings. Isolation means exclusion of the friends from the patient, the cutting off of visits, and in some cases the cutting off of correspondence with the patient. A second essential in the rest cure and management of neurasthenia and hysteria, especially neurasthenia, is to establish an atmosphere of constant hopefulness.

GENERAL.

American Laryngological Association.—The Twenty-third Annual Congress of the Association will be held at New Haven, Conn., Monday, Tuesday and Wednesday, May 27-29, 1901. The President of the Congress is Dr. Henry L. Swain of New Haven.

Discovery of Supposed New Ether.—Dr. John A. Cooke, professor of chemistry in Morningside College, of Sioux City, Ia., is said to have announced the discovery of a new kind of ether, which chemists to whom it has been submitted declare will prove of greater practical value than that ordinarily used. Its specific gravity is lower and its color is orange yellow. It has been found very effective in surgery.

Medical Society of City Hospital Alumni, St. Louis.—At the last regular meeting of this society, held March 21, 1901, the following papers were read: Dr. L. H. Behrens—A Case of Gall-Stone Impaction Simulating Appendicitis; Dr. A. E. Taussig—A Case of Duodenal Stenosis due to Gall-Stones; Dr. R. F. Amyx—(1) A Modification of the Liston Splint with Method of Application, (2) Presentation of Hospital Patients; Dr. F. R. Fry—Types of Migraine.

Quarantine Rules Modified.—In view of improved conditions in Cuba, and the fact that passengers as well as vessels are inspected before leaving Cuban ports by the United States quarantine officers, and suspected baggage disinfected, the Treasury Department has so modified existing regulations as to permit, until April 15, 1901, travel from Cuba of non-immunes after their inspection at port of departure and necessary disinfection of effects. This waiver includes the northern ports.

To Regulate Marriages.—The State Senate of Minnesota on March 23d, passed Senator Chilton's bill prohibiting the marriage of insane, epileptic, and idiotic persons, and requiring a medical certificate of all applicants for marriage licenses. Amendments were adopted making the physician's certificate not quite so sweeping, and permitting the marriage of any feeble-minded person over forty-five; the bill originally having extended such permission only to women. The bill passed by a vote of 34 to 17.

Tuberculosis in Texas Jails.—It is not generally known that Texas has isolated its consumptive convicts, thus keeping in the front rank of modern ideas regarding the treatment of this malady. Not only this, but these ailing convicts receive treatment practically similar to that followed in sanitaria for consumptives. Their diet is of a highly nourishing character, and includes stimulants. Cleanliness in quarters and the observance of sanitary precautions are imperative. When able to leave their beds, the men are required to be in the open air, and they sleep in a spacious stockade, where each enjoys as much breathing space as he would in a forest camp. No one is required to work beyond his strength, and employment is entirely in market-gardening. Yet this isolated convict farm has returned to the State in two years a net profit of about $2,500. Thus far the results of this mode of living and treatment have been of the most gratifying character. Many men who went to the farm apparently in the last stages of consumption, and who were scarcely able to feed themselves, are now hearty and stout, evincing not the slightest objective evidence of consumption, and the death rate from this disease is steadily diminishing. A

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Lepers in the Philippines.—According to the reports of the Marine Hospital Service leprosy is widely prevalent over the entire archipelago, but the greatest number of cases exists in Southern Luzon and the southern islands. It is quite prevalent in Cebu, the number of lepers being estimated at 2,000. The total number of cases in the islands is estimated at 20,000, but the actual number is not known, and a census is difficult on account of the majority of cases being in the rural districts. The cases in Manila and surrounding country are isolated in a substantial hospital under the auspices of the Manila Board of Health. There is also a leper hospital at Cebu. An attempt at segregation and isolation of the lepers in the islands has been made by the army officials, and several months ago orders were issued from headquarters directing that a hospital in each district be set aside for the isolation of the lepers that could be apprehended, and a Board of Army Officers was detailed recently to investigate several islands for the purpose of selecting a suitable one for a leper colony, the intention being to deport all cases of leprosy to this place for segregation and isolation.

Tuberculosis Congress.—American medical scientists will be both numerous and prominent at the World's Tuberculosis Congress, to be held in London during the last week in July. Professor William Osler, of Johns Hopkins University, has been invited by the management of the Congress to organize the American contingent. Among those who have already signified their intention of coming are Dr. Trudeau, of New York; Professor Solly, of Colorado; Dr. Herman Biggs, of New York; Professor McEachran, of Quebec.

Dr. J. G. Adami, professor of pathology at McGill University, has been appointed Vice-President of the section of pathology and bacteriology of the International Congress on Tuberculosis to be held in London in July under the patronage of King Edward. Dr. Adami will attend.

Professor Koch, of Berlin, and Dr. Brouardel, of Paris, have announced their intention of actively participating. Dr. Malcolm Morris, of London, the originator and secretary general of the Congress, is reported as saying: "Certainly tuberculosis never called together so distinguished a body of international experts. Delegates will attend from probably every civilized country of the world. From the United States, it goes without saying, we expect the keenest kind of men and ideas. We have decided to establish a temporary museum, illustrative of the treatment and prevention of tuberculosis in both men and animals."

An International Sanitary Treaty.—Two South American States, Argentina and Uruguay, have agreed upon a treaty of sanitary protection, relating generally to contagious and infectious diseases, and especially to the bubonic plague. The provisions of this treaty are broad and liberal both States in a very sensible and practical way. Among other things, it provides that if the plague, or any other infectious disease capable of being transmitted by sea, shall make its appearance in either country, ships clearing for the other shall be inspected and thoroughly disinfected, including the baggage of passengers if from places where the existence of the disease is known or suspected, to the end that they may sail with a clean bill of health. The treaty does not provide that the quarantine on either side shall be lax, or that any proper precautions shall be neglected, but arranges for mutual good offices for joint protection against the preventable transmission from one country to the other of diseases which may become epidemic.

American Association of Pathologists and Bacteriologists.—The first annual meeting of this association will take place next week, April 5th and 6th, at Boston. From the program issued the meeting promises to be unusually attractive. The Introductory Address will be delivered by Dr. W. T. Councilman of Boston. Some of the papers to be read are as follows: Pathology of Spleno-lymph Glands, by A. S. Warthin, Ann Arbor; Multiple Leiomyoma of the Kidney by J. H. Larkin, New York; Transplantation of Tumors by Leo Leob, Chicago; Hodgkin's Disease by C. F. Martin, Montreal; Biology of Pest Bacillus by E. H. Wilson, Brooklyn; New Formation Nerve Cells in Cerebral Tumor by W. L. Worcester, Danvers; Trichinosis by H. V. Williams, Buffalo; Growth of Bacteria on Serum Agar by E. Libmann, New York; Suppurative Pyelophlebitis by Charles Norris, New York; Sudden Death in Epilepsy by A. P. Ohlmacher, Gallipolis; Cholecystitis and Typhoid by J. H. Pratt, Boston; Liver Necroses by F. B. Mallory, Boston; Porencephaly by D. A. Shires, Montreal; Proteolytic Enzymes and Chemical Studies by E. R. Baldwin, Saranac Lake and P. A. Levene, New York; Variation in Virulence of Human Tubercle Bacilli by A. J. Lartigau, New York; Primary Endothelioma of Lung by Isaac Adler, New York; Genital Noma by George Blumer, Albany; Streptococcus Mucosus by W. T. Howard, Jr., Cleveland; Bacteriolysis and Typhoid Immunity by W. M. Richardson, Boston; Cerebrospinal Meningitis and Bacillus Pyocyaneus by R. G. Perkins, Cleveland; Bacillus Diphtheriæ by F. P. Gorman, Providence; Intestinal Bacteria by W. W. Ford, Montreal and Cholesteatomata of the Brain by J. J. Thomas, Boston.

As to Quackery.—The excellent editorial comment on this subject by the New York *Sun*, should not go by unnoticed. It shows a just appreciation of the problems involved.

"It is a curious characteristic of human nature, or of a great deal of human nature, that people who grudge paying a cent to a regular medical practitioner will cheerfully pay a great

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deal of money to an irregular medical practitioner. Go where you will and you will find the quack prosperous. His rooms are full of patients and his patients are full of faith. Men and women will buy wondrous remedies from traveling mountebanks who do not disdain to sing a comic song on the wagon from which they peddle their nostrums. Natural bone-setters, and long-haired "Indian doctors," and botanic doctors ignorant of botany, and faith healers of many kinds, abound; and the trade of most of them is good. The world likes to be healthy, but it loves to be humbugged.

"If a thousandth part of the blind, unhesitating faith that cleaves so readily to incompetent and often illiterate practitioners of fantastic means of healing were bestowed upon religion there would be no complaints that the churches are not filled. But often those who are full enough of doubts of the supernatural so far as it relates to their souls are quick to believe in an almost or altogether supernatural gift of quack-salves to cure the body.

"Legislation can do but little, if anything, to interfere with the gains of the medical pretenders or of the professors of visionary and semi-religious medical 'science.' You can not legislate away a state of mind; and the state of mind of thousands, perhaps millions of persons, is one of crass credulity in humbug. Their delusions and illusions can be removed only by experience and a wider knowledge. They take their own lives and the lives of their families in their hands when they neglect the methods and the agents of modern medicine and surgery and resort to the moonshine of Christian Science or to any other crank system or to any individual quack. But you cannot prevent people from killing themselves if they have the will; and you will only stimulate faith in quackery by giving it a chance to yell 'Persecution!' A private arrangement between patient and 'healer' will nullify any provision of law forbidding the 'healer' to heal for a consideration. A gift can take the place of a fee; and 'gratuitous' treatment can be acknowledged with a gratuity.

"The best way to deal with a delusion is to let it alone. Common sense must win in the end."

A National Consumptive Sanitarium.—An official announcement, indorsed by all the Denver papers, was issued March 23d regarding the establishment of a sanitarium for consumptives. It says: "To save the lives of thousands of persons belonging to other States from death from tuberculosis is the object of an organization of Denver physicians and other professional men and women for the establishment and maintenance of the Rocky Mountain Industrial Sanitarium, which has just been incorporated here. The organization aims to be national in scope and has the indorsement and support of many of the foremost physicians of the United States. The institution is not for profit. No dividends can be declared and the net earnings will be used for the improvement and betterment of the enterprise. Its purpose is to aid the great majority of tuberculosis patients in poor or moderate circumstances who come to Colorado and other mountain States in the hope that the climate and altitude will aid in effecting a cure, and who, almost invariably, either from lack of means or proper direction, are immediately surrounded by conditions which preclude improvement or recovery.

The plan provides for the erection of a sanitarium about twenty miles from Denver, to be conducted as an industrial colony. A large amount of money will be required. This, it is expected, can be raised by the 'cottage endowment plan.' To secure these endowments by individuals, fraternities, clubs, societies, churches, colleges, alumni, labor unions, etc., the Young Woman's Sanitarium Auxiliary has been organized. A branch of the auxiliary will be established in every city and town in the United States. By utilizing the labor of patients it is expected that nearly all the work of the institution will be performed, the entire sanitarium supplied with provisions and a great variety of remunerative industries carried on. The industrial nature of the institution will enable patients to avail themselves of a change of climate while the disease is in its incipiency and before they are incapacitated for light, open-air employment."

A Tuberculosis Conference at Ottawa.—According to the Marine Hospital reports, the prevalence of consumption throughout the Dominion of Canada has become so great as to cause alarm among all classes of people. Less than two months ago, in response to public demand as expressed through the press, Governor-General Earl, of Minto, called a public conference to meet in Ottawa on February 14th to consider what means should be taken in order to overcome the ravages of tuberculosis. Invitations to this conference were issued by the governor-general to representative people all over Canada—ministers, physicians, lawyers, and statesmen. When the conference assembled there were found to be present over 500 participants. It was formally opened in an address by the governor-general, and Sir James Grant was made the permanent presiding officer. In the governor-general's address it was stated that the death rate from consumption was steadily growing, and in the Province of Ontario alone, between 1867 and 1898, had amounted to no less than 32,000. Although statistics are not available, the death rate from consumption in the Province of Quebec is even greater than in Ontario. The annual estimate of deaths from consumption for the whole Dominion is placed at between 7,000 and 8,000. According to Sir James Grant's statement, tuberculosis carries off

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The conference continued in session three days, and the discussions were most interesting from beginning to close. Dr. Fraser, of Brandon, representing the Indian department of the Federal Government, spoke of the awful prevalence of tuberculosis among the Indians. From his own observation he confirmed that 95 per cent. of the sickness among the aborigines was tuberculosis in some form or another, and worse still, the fatalities were practically 100 per cent. of those affected. In fact, the race was dying out in consequence.

Resolutions were adopted demanding that the Government take measures to prevent the entrance into the Dominion of tuberculized immigrants and tuberculized cattle.

An association was organized, the official name being "The Canadian Association for the Prevention of Tuberculosis." The objects are stated to be, generally, to combat and prevent tuberculosis in the Dominion of Canada. Specifically: (1) To enlighten and educate the public in regard to the disease and the principles of prevention and cure. (2) To influence legislatures to do all within their power to assist in means of prevention and cure. (3) To encourage the erection of sanatoria within reach of the people, and the passing and enforcing of adequate sanitary laws. (4) To take means to arouse sufficient interest until governments, municipalities, and people are brought into such systematic cooperation as to make full provision for the whole of the people.

The above purposes to be accomplished by (1) The establishment of a central office for the preparation and distribution of suitable literature and for correspondence. (2) The institution of public lectures. (3) Articles in the press. (4) Periodical congresses and an annual report. (5) Appealing to every province and territory to inaugurate local associations to carry the work into every municipality. (6) Appealing to life insurance companies, benefit societies, etc., to make proper protection to non-tuberculous insured.

Obituary.—Dr. George Wren, the house physician at St. Vincent's Hospital, New York, died there last week of typhoid fever. He was born in Bridgeport twenty-seven years ago. He was a graduate of Fordham College and in 1899 was graduated from the Bellevue Medical College, going at once to St. Vincent's Hospital. He was appointed house physician in January. His father, Peter W. Wren, is President of the Board of Health in Bridgeport.

Dr. William Francis Channing, noted scientist and son of the philosopher; Dr. William Ellery Channing, and cousin of the late Rev. William Henry Channing, once Chaplain of the United States Senate, died at the Perry Hospital March 20th. Dr. Channing was born in Boston and was graduated from Harvard in 1839, being a classsylvania, receiving his diploma in 1844, but never practised.

Dr. Richard K. Valentine, fifty years old, committed suicide last week at his home, 190 Lincoln place, Brooklyn, by cutting his throat with a lancet. About a week ago he was prostrated by a severe attack of the grip. He was under the care of several physicians and two trained nurses. He became delirious last night, and the nurses were constantly at his bedside, but in spite of them he managed to kill himself.

Dr. John Henry Hobart Burge died last week at his home, 132 Montague street, Brooklyn, of heart disease. He was born at Wickford, R. I., in 1823. His father was the Rev. Lemuel Burge, who was pastor of the Narragansett Church. Dr. Burge was graduated from the College of Physicians and Surgeons in this city. The following year, 1849, as surgeon on the bark "Ann Welch" he made a trip around Cape Horn to the gold fields of California. While in San Francisco he founded the first hospital there. He returned to Brooklyn in 1851 and had practised medicine there ever since. He was consulting physician at the Long Island College Hospital and St. John's Hospital. He was a charter member of the Practitioners' Club.

Dr. Mary F. West, one of the oldest women physicians in this city, and a graduate of the Woman's Medical College of the New York Infirmary, died suddenly at her home, No. 122 East Twenty-eighth street, last week. Dr. West, who was sixty-one years old, had practised in this city for more than twenty years.

Dr. S. Edgar Mortimore of New York City died on the operating-table at the Church Hospital in Orlando March 22d. Dr. Mortimore was born in New York in 1850. He attended the public schools and was graduated from the Eclectic Medical College in 1871. He was afterward Professor of Anatomy in that college and a practising physician in Harlem for thirty years.

Dr. Ralph J. Hess, twenty-seven years old, died this week in the scarlet-fever hospital on North Brother Island. Dr. Hess joined the Bellevue Hospital staff on June 1st last. He was taken sick last Monday night and no alarm was felt until the following day when he developed symptoms of scarlet fever. He was then removed to the Willard Parker Hospital, but owing to the crowded condition of that hospital he was removed to North Brother, where he died.

EMERGENCY HOSPITAL AT THE PAN-AMERICAN EXPOSITION.

An attractive and useful feature of the Buffalo Exposition will be the emergency hospital, which is illustrated here. It is to stand at the west end of the Mall. In conformity to the general architectural scheme of the Exposition build-

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ings, the free Spanish Renaissance type of treatment has been followed.

It is to have a frontage of about 90 feet on the Mall; and in the main is but one story high, but it covers a considerable ground floor space. Modern arrangements that are both convenient and sanitary mark every feature. Approved medical and surgical appliances have been most carefully selected especially for their adaptability to emergency work and the exigencies that are likely to arise. The first floor front contains in the extreme western wing, two male wards with seven cots each, a bathroom, physicians' office, a morgue and a linen-chest. The eastern wing contains a woman's ward, large enough to hold a dozen cots, with direct communication to the woman's bathroom. Dr. Roswell Park is the Director; Dr. Vertner Kenerson, Deputy Director, and Dr. Alexander Allen is the resident physician.

In regard to the importance of this adjunct to the Exposition it may be said that up to March 1st five hundred and four cases have been treated on the grounds, only one of which proved fatal. These include all forms of sickness and accidents to workmen employed upon the construction work. In this connection it is well to note that the number of cases treated at the Omaha Exposition was about three thousand, while the history of the hospital at the World's Fair in Chicago gives a total of 11,602 medical and surgical cases treated, resulting in 69 deaths.

It is hoped to have less use than this for the hospital at the Pan-American, though in the immense crowds which will attend, no doubt, many individuals will have occasion to appreciate the provision that has been made in this direction.

Plague's Ravages in India.—The Calcutta correspondent of the *Daily Mail* says: "Eight thousand people died of the plague last week in Bengal alone, including Calcutta. Whole towns are being deserted."

Bell Bill Withdrawn.—Dr. Nelson Henry has withdrawn the much modified and discussed Bell Bill. It was found to be impossible to please all the various interested parties and it is understood that a new bill is contemplated.

CORRESPONDENCE.

OUR LONDON LETTER.

[From Our Special Correspondent.]

LONDON, March 16, 1901.

"THE DUMMY CORPSE"—THE OUTBREAK OF SMALLPOX IN GLASGOW—THE HOSPITALS COMMISSION—THE HOUSING OF THE POOR IN LONDON—INCREASE OF ALCOHOLIC LUNATICS IN SCOTLAND IN CONSEQUENCE OF THE PROSPERITY OF THE COUNTRY—THE NEW SYDENHAM SOCIETY—DECLINE OF MEMBERSHIP—PROPOSED ATLAS OF DIAGNOSIS IN MEDICINE, SURGERY AND OBSTETRICS.

MR. MARSH, the practitioner who was in attendance in the "dummy corpse case," which I have already described in a previous letter, has contributed to the *Lancet* a complete account of this extraordinary fraud. I need now only summarize the additional points narrated by the doctor. The patient was a man, aged thirty-five, who called at the doctor's office on January 14th complaining of difficulty of micturition. Mr. Marsh prescribed for him and did not see him again until the 25th. On the 29th the doctor was summoned and found him in bed in a very weak state, with a temperature of 103°. He complained of severe pains in the loins and constant headache and said that his feet and legs swelled when he was out of bed and that for some time he had been frequently passing small quantities of porter-colored urine. He remained in bed for the following eight days during which the doctor visited him regularly and obtained samples of his urine daily. It was acid, specific gravity 1026, and always contained considerable quantities of albumin. On one occasion the reaction for blood was obtained and there were numerous hyaline and some granular tube casts. On February 4th the albumin had largely increased and the patient was very collapsed, deadly pale almost pulseless, and suffering from a severe rigor. He said he would send for his brother and wrote a letter to him which the landlady posted. On Feb-

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Fearing uremia the doctor tooks measures accordingly and saw the patient at night again. Though free perspiration had been induced the drowsiness continued and with difficulty could a reply be elicited. Next morning a man much resembling the [redacted]nt called on the doctor stating that "his [redacted]er" had died at 4 A.M. in a fit and gave a description of a uremic convulsion. He wished "the body" to be removed lest it should be an inconvenience in the house. Later in the day the doctor visited the house and found "the dummy corpse" described in my previous letter. On being arrested the patient confessed that he added albumin to his urine, but said that he had been very ill. For obtaining a death certificate by false pretences he was sentenced to nine-months' inprisonment.

The official report shows that in Glasgow during the past week 130 fresh cases of smallpox were admitted to hospital, of which 90 were dismissed cured and 10 deaths occurred. The number of deaths since the beginning is 134 and the greatest number of cases in hospital at any one time was 456, on February 8th.

In reply to a question in the House of Lords, Lord Raglan, Under Secretary for War, said that the report of the Hospitals Commission was very important and lengthy and that the Government had hardly time to digest the suggestions, but they were fully alive to the importance of thorough reorganization of the Army medical system, and that they would avail themselves of advice from the heads of the profession or other sources.

The housing of the poor has now become a burning question in London. The working man, unless he lives miles from his work, must pay an exorbitant rent for one room in a small house inhabited by two or three other families. The poorest class pay a high rent for a single room out of a starvation wage. From earnings of six, eight, or nine shillings a week gained chiefly by women who form the huge army of boxmakers, artificial flower makers, belt and umbrella makers, paper-bags, etc., as much as three or four shillings are paid for a single room. The London County Council has in hand 37 schemes for the erection of artisans dwellings of which several represent the abolition of insanitary areas. It has provided accommodations for 32,000 persons and is committed to build dwellings for 12,000 more. It is well known that the King takes a great interest in this subject. When Prince of Wales he presided at a Commission which investigated the problem of the housing of the poor.

At the annual meeting of the Royal Edinburgh Asylum for the Insane, the largest establishment of its kind in Scotland, Dr. Clouston the superintendent said that the admissions to the asylum for the past year constituted wages had to a large extent been the cause of an undue amount of mental disease. His alcoholic lunatics had risen from an average of 15½ per cent. in 1874-88 to 24½ per cent. in 1900. All this apparently resulted from the prosperity of the country. Yet the politicians said they could do nothing. The author is convinced that some day they would have a big reckoning. A consumptive race might conceivably be cured in two generations, but a drink-sodden race could not be cured in 100 years.

The New Sydenham Society which is now in its forty-third year is in financial difficulties. It was founded with the object of publishing translations of most important medical works which appeared in foreign languages and has done excellent service, giving for an annual subscription of five dollars usually about three volumes. In its palmy days its list of members was as high as 3,000; it is now only 1,400. Mr. Jonathan Hutchinson who has been Honorable Secretary since the foundation explains that this decline is due to perfectly natural causes. The condition of medical journalism and of the publishing trade has declined in the Society's lifetime. The supply of medical literature is now very liberal and works of real merit published abroad do not now wait long for translation. The Society cannot possibly compete with private enterprise in promptitude. In brief the *raison d'être* of the Society has to a large extent been removed. Of late the Council has had increasing difficulty in finding works for translation which should fulfil the two needful conditions of being at once of great permanent value and likely to be acceptable to a wide circle of readers. Works such as those of Trousseau, Hebra. Charcot and Hirsch are no longer available. There are plenty of valuable monographs on special subjects, but they would interest only a few. The question of winding up the affairs of the Society has therefore been under consideration; but before doing so it has been determined to endeavor to publish an "Atlas of Pictorial Illustration of All Subjects Relating to Diagnosis in Medicine, Surgery and Obstetrics. It is calculated that if 2,000 subscribers could be obtained 4 or 5 fasiculi of from 8 to 10 plates each could be produced annually and that the work could be completed in five years.

TRANSACTIONS OF FOREIGN SOCIETIES.

British.

ENTERECTOMY — PYONEPHROSIS — FIBROMATA— SCARLATINA.

A. G. BARKER, at the Royal Medical and Chirurgical Society, February 26, 1901, reported two cases of enterectomy to show the limita-

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tions of this operation. The first patient was a woman, fifty-eight years old; multiparous; glycosuric to six per cent. of sugar; afflicted for nine months with indefinite abdominal discomfort increasing to decided pain and obstinate constipation; admitted to the University College Hospital, October 3, 1900. At that time she showed a tender tumor above and to the left of the umbilicus, fist-size, movable, little affected by distending the stomach, but displaced into the right iliac fossa by filling the colon with air, and therefore indicating colonic obstruction, probably cancerous with more or less intussusception. Her generally favorable condition warranted an operation, at which five inches of the colon were removed, October 25th. She showed an excellent reaction from the operation, a temperature of about 100° F. for the first nine days, assimilated rectal food for the first four and small quantities of fluid from the second day onward by the mouth, she bore morphine, three to four times daily for three days, and then phosphate of codeine, in grain-doses hypodermatically thrice daily, combative of her glycosuria, which at this time had reached its maximum, 6.6 per cent. This condition speedily disappeared altogether under the drug and diet. Once she surreptitiously ate sugar and grapes and next day showed 2.8 per cent. of sugar, but again recovered from it. Her recovery from the operation was steady and, except for some sloughing of the mesentery, uneventful. Very evidently there are glycosurics who repaid well operative damage. The second case was a robust woman, seventy-six years old, with a strangulated ventral hernia through an ovariotomy scar since 1870; no children; multiple large fibroids of the uterus; admitted January 10, 1901, to the hospital with the classical symptoms of strangulation persisting during the 8th and 9th. Upon exposing the hernia, a pint of intensely fetid, fishy fluid gushed out, three feet of the small intestine herniated through the omentum showed little luster, no cracks of the serous, punctate ecchymoses, subserous thrombosis, distention and practical gangrene. Five and one-half feet were resected, end-to-end anastomosis with the Murphy button was quickly done. From beginning to end the procedure occupied sixty-three minutes. Normal salt solution was slowly injected subcutaneously during the operation. Recovery was perfect. It seems that these resections show that some bear them well and that in children a compensatory hypertrophy of the remaining small intestine occurs to account for the large loss they sometimes bear.

F. W. PAVY in the discussion said that operations upon diabetics of the alimentary type succeed, but fail in the combined type. In the former, diet corrects the disease; in the latter, noxious matters like acetone and diacetic acid as well as sugar are in the blood.

T. SMITH recorded a case of a man not previously known to be diabetic, who after scratching his finger promptly died of septicemia and gangrene of all four extremities of a malignant, rapid type.

A. DORAN, at the Medical Society of London, February 25, 1901, reported a case of painless, feverless pyonephrosis, treated successfully by nephrectomy. The woman was thirty-eight years old, mother of eight children, always healthy up to a year ago; soon after marriage was attacked by a purulent vaginitis contracted from her husband who had strictures and cystitis. Her last child was born five years and a half ago. The history reported a mass in the right side causing discomfort when her corsets were on, but without sensation when undressed; denied hematuria, renal colic, fever and chills. There was albumin in the urine occasionally. There was a large movable kidney in the right side. Through a Langenbeck incision, the kidney was easily removed. A complete and prompt recovery followed. The organ was cystic, purulent and calculous. Evidently the gonococcus in ascending infection was at the bottom of this trouble.

A. H. N. LEWERS read a monograph on fibromata of the cervix. These occur much less frequently than do those of the body of the uterus, usually solitary, occasionally multiple, present as subserous, interstitional, submucous or polypoid varieties. When their size is considerable they always displace the fundus upward which may be palpated as a mass on the top of the tumor at the neighborhood of the umbilicus. Under such conditions of size the neighboring viscera always give symptoms, the rectum constipation, the bladder frequency of urination, the ureters compression. The uretus is variously affected. Menorrhagia is the rule, but amenorrhea for long periods of time may occur. The author then presented four specimens of these tumors, which tended to demonstrate his points. The first uterus had a large anterior solitary interstitial fibroid which had made the patient profoundly anemic through menorrhagia. The next organ had a single large posterior tumor, which caused at times painful urination, at times involuntary flowing of it, almost total amenorrhea as the woman had menstruated only twice in two years. In these intraperitoneal hysterectomy *per abdominem* was signally successful. The third patient underwent abdominal hysterectomy for the removal of a nine-pound-eight-ounce subserous fibroid which had stripped off the serosa from the recto-uterine and left iliac fossa and intervening walls of the pelvis, obliterating the peritoneal cavity in this region and displacing the sigmoid colon to the right side from the level of the umbilicus downward. A stump of the cervix was also left in this as in the other two cases and recovery followed. The fourth

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cyst all successfully treated by panhysterectomy. The diagnosis of these tumors rests upon a patent os exterium and a palpable intracanicular tumor. A careful distinction between these and submucous fibroids of the body must be made, because the latter can be removed by pieces, but in the cervix this is disastrous.

A. NEWSHOLME, at the Epidemiological Society of London, February 15, 1901, discussed scarlatina, its epidemiological relation, especially as regards the influence of isolation upon it. That a specific organism not yet isolated with absolute scientific accuracy is the cause of this disease is certain; because it is killed by heat and other powerful disinfectants and is transmitted by personal contact and intercourse, by fomites and such media as milk. Until the life history of this germ is discovered and described our duty remains to combat it by isolating diseased patients and by disinfecting and destroying contaminated materials. One feature already established is the cyclical recurrence of periods of maximum and minimum prevalence and mortality. These vary from year to year, but do not correspond year for year in one town compared with others.

In England from the years 1859 to 1883 the mortality had never been less than 0.28, except in 1873, following excessive mortality in 1872, it was 0.19, in 1884, 0.36, and has since reached 0.08 per 1,000 as the minimum. This improvement was partly, but not wholly ascribable to the use of isolation hospitals, because in towns where no such institutions existed, a similar improvement had been seen in certain years. The very low mortality in such places immediately after periods of great or excessive death-rate could be explained on the basis of exhaustion of all susceptible material. It is peculiar that when such respites from scarlet fever occur, there is almost always an outbreak of bad diphtheritis. This has occurred so frequently as to suggest, but not yet consistently enough to prove a correlation between these two diseases. To assume that the present slight prevalence is due entirely to the isolation process would be erroneous, although it has secured better conditions in towns of good sanitary conditions over those of equally good conditions, but without isolation hospitals. Isolation in most houses is not possible, therefore the hospital is justifiable. An attenuation of the virus is the other factor now at work to determine the low fatality, just as early in 1900 it existed and led one observer to conclude that the depletion treatment was the cause. A recurrence of the virulent type corrected his opinion. Nevertheless isolation is a safeguard, and should be adopted by all advanced and civilized communities.

NEW YORK ACADEMY OF MEDICINE—SECTION ON PEDIATRICS.

Stated Meeting, Held February 14, 1901.

William L. Stowell, M.D., Chairman.

Vomitus Nervosus.—Dr. Louis Fischer presented a girl of thirteen whom he has had under observation for six years, and in whom attacks of nervous vomiting have occurred as often as five or six times a week during that period. The first quest in the case is naturally as to whether it is a case of ulcer of the stomach. But all the pathognomonic symptoms of ulcer are lacking. The pain, or rather discomfort, that precedes the vomit is not acute, but rather an uncomfortable feeling. The tenderness is not localized at one point, but is over the whole stomach. Digestion seems to be considerably interfered with and the food is often but slightly changed when it is returned. Though there are practically no stigmata of general hysteria, Dr. Fischer is inclined to think that this vomiting is nervous in origin and has a hysterical condition for its basis.

Dr. Einhorn said that the condition is evidently not due to ulcer of the stomach since the pain is not localized at a particular point, but is felt all over the epigastrium. The periodic recurrence of the paroxysmal vomiting points to an underlying nervous condition.

Hyperesthesia of the Stomach.—Dr. Einhorn said that a marked hyperesthesia of the stomach mucous membrane is sometimes a stigma of hysteria. It corresponds with the occurrence of hyperesthetic patches in the skin. Usually this hyperesthesia is associated with some disturbance of the gastric secretions.

Where hyperchlorhydria exists pain occurs not immediately after eating, but later in the course of digestion. The treatment of the condition requires above all that the child shall be encouraged to keep back the vomiting as much as possible and her general system properly toned up. On days during which paroxysms are to be expected ferments should be administered. Between the paroxysms tonic stimulants are indicated.

In concluding the discussion Dr. Fischer said that there is a general tendency to hyperesthesia all over the child's body and the gastric hyperesthesia seems only a part of this. The stomach contents have frequently been examined and were usually found to be normal. Occasionally an excess of hydrochloric acid was found. The most successful treatment consisted in the administration of nerve sedatives, such as the bromides and morphine.

Infantile Diabetes.—Dr. William E. Young

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examination the specific gravity of the urine was 1,030 and it contained 5 per cent. of sugar Moreover, the infant was passing about double the normal amount of urine. A certain amount of albumin and some casts were found in the urine, though the nephritis seemed only to be due to irritation on account of the amount of sugar passed. On palpation the liver was found to be considerably enlarged and the kidneys seemed to be about four times their normal size. When the case came under observation the physical signs of diabetes had existed only for about a month. The child was very markedly marasmic. Its skin was dry and it suffered from thirst. Death took place in about four weeks. Codeine was administered very freely, but seemed to have no effect either on the amount of urine passed or on the amount of sugar. At the autopsy marked hyperemia of the kidneys was found and these organs were more than double their normal size. Unfortunately the kidneys were inadvertently thrown away..

Origin of Infantile Diabetes.—In these cases there is usually a history of diabetes in the family. Pavy has noticed the influence of this even as far as the third generation. No family history of diabetes existed in this case. At times during scarlatinal nephritis, glycosuria occurs. The same thing is true of whooping-cough even when it is not complicated by nephritis. Careful study has shown in considerably more than half the cases of whooping-cough that there is some sugar in the urine. It is probable that some infectious agent may be the cause of the rapidly-fatal diabetes that occurs in children.

In the discussion Dr. Fischer said that he has recently had under observation two children of respectively eight and six years, who suffered from glycoruria for several months after an attack of pneumonia. This fact is to be borne in mind when examinations are being made for life insurance, for, shortly after recovery from one of the infectious fevers, patients may be refused who would be otherwise good risks.

Dr. Stowell said that he had seen the case reported by Dr. Young and that its marked features were the drying up of the patient, the enlarged kidneys and liver. It seems unfortunate that microscopic examination of these organs was not obtained, as some light might have been thrown on the origin of infantile diabetes.

Milk Modification Apparatus.—Dr. Charles Hermann presented a simple apparatus for the modification of cow's milk for baby-feeding. Any milk-modifying apparatus should present three requirements. First, it should not be expensive; second, it should not be too complicated; and, third, it should admit of easy changes of formula. In this apparatus of the milk furnishes a ready standard for the determination of the amount of fat that a milk may contain. Dr. Hermann's apparatus consists of a graduated cylinder mounted on a stand and with a stopcock at the bottom. The cylinder is graduated from the bottom up so as to show the amount of milk that is still in the cylinder and not how much has run out. The milk is allowed to stand in it for some hours until the cream has risen. It is then drawn off. A very simple calculation enables one to decide just what is the proportion of fats and proteid material in the milk. The apparatus may also be used in determining the quality of a milk. The instrument being graduated to 1,000 c.c. the proportion of cream can be read off directly. Besides this a comparison of the specific gravity of the whole milk and of the under milk shows the richness of the product.

Vacination Clinically Considered.—Dr. Frank S. Fielder then read a paper on this subject. (See p. 490.)

Remarks on the Preparation of Vaccine.—Dr. John H. Huddleston read this paper. (See p. 503.)

Vaccine Organisms.—Dr. Anna Wessels Williams said that 130 papers have been written during the last fifteen years describing supposedly specific organisms that occur in vaccinia. Fifteen of the investigators were sure that they had succeeded in isolating the specific microbic cause of the disease. These specific micro-organisms were of all kinds, forms, and types. There were bacteria, ferments and protozoa. All these supposed discoveries with one exception have been rejected by critical bacteriologists. Some of the reported results that are constantly cropping up in the medical journals are amusing for their utter ignorance of the results obtained by others. Only last May an investigator seriously claimed to have discovered the bacillus of vaccinia. Any bacteriologist at all familiar with the subject recognized at once that the organism to which this writer referred was an ordinary saprophyte that is practically always found in vaccine material.

The Question of Protozoa.—The claims of only one micro-organism have not been disproved. This is seen in certain appearances which are found in epithelial cells in the neighborhood affected by vaccinia. When vaccine material, containing these appearances within the cells, is inoculated into the cornea of rabbits corresponding changes occur in the corneal cells. It is as yet an unsolved problem as to whether these appearances are due to micro-organisms or are merely degenerative tissue changes. Pfeiffer claims that these appearances are due to a protozoon, the presence of which is to be detected in the lesions of vaccinia, variola and varioloid. He

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size and number with the age of the lesions. Other observers claim that the appearances noted are due to degenerative intracellular changes which cause certain parts of the protoplasm of the cell to take the stain in a different way to the rest of the cell.

Personal Experience.—Dr. Williams has found the appearances that are said to be those of the microbe in question in corneal cells thirty-four hours after the injection of material from vaccinal lesions, which also contained these appearances. The characteristic intracellular bodies were noted especially before the leucocytes had gathered in any numbers. Leucocytes apparently prevented the further growth of the micro-organism. Usually one of these supposedly protozoic bodies was found near the nucleus of the cell. At times two were to be seen and there were signs of recent division having taken place. In vaccinal lesions these bodies are found everywhere excepting in the stratum corneum of the skin. They occur especially in the hair-follicles and in the sebaceous glands, the epithelial cells of which seem to furnish a proper habitat for the protozoon. At times the protozoic body is as large as the nucleus of the cell and it may cap it or shove it aside. These bodies disappear in five days from the calf's and in eight days from the rabbit's cornea. A series of experiments and observations undertaken in conjunction with the New York Board of Health shows that whenever these bodies occur in vaccine material the virus is active and is capable of producing vaccinal immunity. Where these bodies do not occur the vaccine matter fails to take satisfactorily.

Revaccination.—In discussing the papers on vaccination, Dr. W. A. Dunckel said that the question of revaccination is the most important one for the medical world now. It has been demonstrated that the protection afforded by vaccinia may run out even in five years. The effect of vaccination on other skin eruptions is exaggerated. Dr. Dunckel saw recently a tuberculous, pustular eruption widely distributed develop just ten days after vaccination. Besides this tinea occurred on the face and head. The case was a puzzling one, and the history seemed to point to the existence of syphilis. Investigation proved that this was the cause and the therapeutic test confirmed this diagnosis.

Vaccination Shields.—Dr. Dunckel expressed himself as thoroughly opposed to the use of shields. The protection afforded is very slight while the chances of infection are added to. Almost any form of shield leads to some constriction of blood vessels and causes the vaccinal ulcer to run a slower course and to cause deeper destruction of tissue than would otherwise occur.

cine inoculation which apparently was not going to take. This recrudescence took place when the original inoculation was nine days old. Both inoculations took at about the same time and ran their course together. Such delay is unusual, but must be remembered. In about fifty per cent. of the cases of children whose mothers were vaccinated after the seventh month of intra-uterine life was passed, vaccination immediately after birth did not take. Barlow has shown that vaccination on a supernumerary finger, the finger being removed on the third day after inoculation practically never failed to take.

Dr. Bartlett said that sixty to seventy per cent. of children vaccinated in infancy may be revaccinated successfully between the ages of eight and thirteen years. In recent years we have learned that the glycerinated vaccine virus is much more effective than the fresh untreated virus. Certain cases of vaccination produce a keloid excrescence in the skin. The protective power of this is almost nil. These unusual forms of vaccination scar have become much less frequent of late years. Failures to take are also much more rare. Last year in a large number of vaccinations from January to June, Dr. Bartlett had not a single failure. During the month of June there were eight failures. It is evident that the warm weather modified the virus sufficiently to prevent its being as effective as usual. The Board of Health vaccine virus has been most efficient. For a while when it was difficult to procure Board of Health virus because of the demand, some virus from a private source was employed. This did not prove so satisfactory. The number of marks made at the original vaccination seems to make very little difference. One successful inoculation seems as effective as three.

Defense of Shields.—Dr. Bovaird said that he has had excellent results from the use of shields. They practically do away with all the discomfort of vaccination and so tempt parents to have their children vaccinated more readily than would otherwise be the case. He uses a stout wire shield 2½ inches in diameter, which is applied by means of rubber adhesive plaster, or still better by means of zinc oxide plaster. When firmly put on in this way it remains for three or four weeks and proves a thorough protection for the vaccine ulcer all during its course. If necessary it may be renewed and it should, of course, occasionally be seen by the doctor. The best proof of its usefulness is the testimony of patients as to the comfort experienced in revaccination. People have noticed so much difference between the discomfort felt at the previous vaccination and at this one protected by a shield that they have considered the latter method a great improvement.

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present winter he has done about 700 vaccinations in private practice. Only in cases in which sheilds were used were there any sore arms. Shields were used by certain patients contrary to his advice. In nearly every one of these cases the vaccination ran a longer, severer course than in those in which the inoculated spot was left unprotected. The manner of putting on shields produces too much tension, disturbs the circulation in the neighborhood, makes the tissues more liable to break down, prolongs the course of healing, and leaves a deep scar.

Number of Inoculations.—In closing the discussion Dr. Fielder said that we do not know whether inoculation at several points produces better protection than inoculation at a single point. As much vaccinal material can be put into one well bared spot as into three very small ones. Immunity and susceptibility seem to be absolutely indifferent to the number of scars that exist provided one good scar surely is present. It is probable that there is some slight protection afforded by the raspberry excrescence, but this is only temporary. Such patients sometimes fail to take on immediate revaccination, but after a month or six weeks, revaccination is usually successful.

Aseptic Skin.—It is practically impossible to produce absolutely aseptic skin for the place of inoculation. Antiseptics may be used freely, however, in washing the skin and they will not interefere with the action of the virus if it is good. Washing with 1-1000 bichloride has been employed without interfering in the slightest with the success of the vaccination. As a rule it seems sufficient to clean the arm thoroughly with alcohol. Any one who has done many vaccinations, however, will remember cases in which the vaccination on dirty arms ran an absolutely uncomplicated course, while after the most thorough cleansing, infection is sometimes noted almost before the vaccination itself begins to take. Beneath shields it is not unusual to have macerations of the skin occur and then maceration of the underlying tissues is a result of the failure of ventilation. These conditions may even lead to the development of a running sore that takes a long time to heal.

Undoubtedly vaccination during pregnancy has some influence on the child then being carried. Twelve out of fifty infants vaccinated under these conditions prove refractory to vaccination. In no individual case, however, can this be depended on for protection and children must always be vaccinated as more than three-fourths of them are susceptible. A German observer has noted that forty-four out of fifty children born under this condition had some slight immunity, but this does not suffice as a safeguard.

utterly opposed to the use of shields. The only bad arms he has seen were in cases where shields had been employed. As a matter of fact the physician should watch at intervals of several days the course of the vaccine ulcer. Most mothers hesitate to dress an ulcer or have anything to do with the care of it, but put it under a physician's care. Somehow, however, the vaccine ulcer is supposed to be an exception. It is cared for at home, or no attention at all is given to it, until serious complications set in.

The individual reaction to vaccination is very different. In two cases where the vaccination takes promptly and effectively one will have scarcely any sore, the other considerable loss of tissue. The use of disinfectants before inoculation with vaccine material seems to have very little effect in protecting an individual from secondary infection. Infection when it takes place occurs after the vaccine ulcer has been established. The size of the area scarified for vaccination is important. Where the area is large more necrosis takes place and more opportunity for infection is afforded.

Vaccine Organism.—The question of the microbe of vaccinia is of course extremely interesting. The bodies described by Dr. Williams that occur in certain cells during the course of the vaccination represent very probably the best claimant as the microbic cause of the disease. In this matter some very interesting experiments have been done on the horse. The horse is refractory to vaccination and one is not sure of always obtaining a successful result. It is only when the bodies described by Dr. Williams occur in the equine tissue that there is any assurance that the vaccine matter furnished by the horse will surely communicate vaccinia. Where these bodies do not occur no true vaccine material is manufactured.

MEDICAL SOCIETY OF RUSH COLLEGE.

Stated Meeting, Held February 4, 1901.

Anatomy of Pregnancy.—Dr. J. Clarence Webster demonstrated specimens illustrating the anatomy of pregnancy as studied by frozen sections; also a specimen of ruptured uterus removed from a woman in whom there had been a neglected impacted face presentation.

Acute Intussusception.—Dr. Philip Schuyler Doane reported a case of acute intussusception in an infant with operation and recovery. Relapse in three and a half months with second operation and recovery. A healthy, female child, three months old, screamed out suddenly with severe pain,

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of blood and mucus *per rectum*. The pulse was rapid and weak; temperature, sub-normal. A mass was detected in the ileocecal region. There was no reduction of the tumor after a high rectal enema. Seven hours after the first symptom an operation was done by Dr. F. Henrotin, in whose practice the case occurred, and a single intussusception was found, about fifteen centimeters of the small intestine with a portion of the cecum being invaginated into the large intestine. This was easily reduced and the child made an uneventful recovery. Three and a half months later there was a recurrence of the intussusception, the symptoms being so like the first that the mother made the diagnosis and hurriedly summoned a physician. An operation was done ten hours after the first appearance of pronounced symptoms, the child being in a serious condition. No reduction of the intussusception which was found after the abdominal incision was possible by injection of air into the intestine. After considerable difficulty, the invagination was reduced. The partially gangrenous appendix was removed and three stitches of fine catgut were then placed in the walls of the ileum and cecum, near their junction in such a way as to make almost an acute angle. The child made a good recovery. She was seen by Dr. Doane seven months after the operation and was apparently in perfect health. The importance of very early diagnosis and immediate operation was dwelt upon.

Pseudo-Phosphaturia with an Unusual Complication.—Dr. Alfred Schalek said that true phosphaturia is a pathological condition in which an excessive amount of phosphates is excreted. It is due to some disturbance of the general metabolism. Systemic symptoms are usually present, such as general or local neuroses, disturbances of the gastro-intestinal organs, general fatigue and loss of flesh. If free urination is prevented in some way, calculi may form in the kidneys or the bladder. Other local complications are rarely mentioned in the literature. A case is cited here, in which phosphatic deposits, consisting of large masses of amorphous phosphates of lime, were persistently present in the urine, the time extending over three years. The white sediment formed in the bladder and amounted, by sight, to about one-quarter of the volume of passed urine. The urine was alkaline from fixed alkali. The patient was decidedly neurasthenic, and lost twenty-five pounds in weight after the phosphaturia began. During all this time he suffered from a purulent urethral discharge, which may have been originally of gonorrheic origin, but which while under observation on repeated examinations never revealed any gonococci. This, and the fact that no lesions were found in any part of the genito-urinary tract, with the coincident pres-

the irritation of the urethral mucous membrane. Various attempts were then made to correct this anomalous feature. Urotropin finally accomplished this, though only during the time of its administration. The urine cleared up and shortly afterward the urethral discharge disappeared. Several times the urotropin was discontinued, with the consequence that the whole cycle of symptoms reappeared. This proved the relation between the phosphaturia and the urethritis. The rationale of the action of the urotropin upon the excretion of phosphates is obscure. It is too weak a base to influence the reaction of the urine; neither can its antiseptic properties be taken into account in the absence of any pathological conditions of the genito-urinary passages. The quantitative analysis gave the rather surprising result that the amount of phosphates was normal, in spite of their persistent deposition in the urine and their obvious effect upon the general system.

BOOK REVIEWS.

A Clinical Treatise on Fractures. By William Barton Hopkins, M.D., Surgeon to the Pennsylvania Hospital, and to the Orthopedic Hospital and Infirmary for Nervous Diseases. J. B. Lippincott Company, Philadelphia.

In this volume the author has given his views and ideas on the treatment of fractures in all parts of the body. He also discusses the etiology of the different kinds of fractures, and the deformities as he has observed them, as well as the points of diagnosis. The treatment is given very clearly and concisely, and forms the greater part of the book. The volume is profusely illustrated by photographs and skiagraphs. The book, however, is printed upon such thick calendered paper that it is unpleasant to handle.

Encyclopedia Medica. Edited by Chalmers Watson, M.B., M.R.C.P.E. Vol. V.: Herpes to Jaws; Vol. VI., Joints to Liver. Longmans, Green & Co., London, New York and Bombay.

The scope of this Encyclopedia has been sufficiently indicated in our reviews of the previous four volumes. Among the more notable articles in Vol. V. may be mentioned those on Hysteria, Hip-Joint Disease, a most excellent discussion, Hypnotism and Diseases of the Intestines. The subject of Immunity is very thoroughly treated, as is also that of Hypnotism and Invalid Feeding. This last topic is most carefully and elaborately gone into. The illustrative features of this volume are not worth mentioning.

In Volume VI. the subjects of Diseases of Joints, Kidney Affections, the Larynx and Its Diseases, Labor and Leprosy, practically take up the entire space. The discussion of Labor is

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lengthy and excellent, but miserably illustrated. The practical features of the work are still in evidence. There is much to be desired in the more strictly technical and scientific features of the work. Here the work often lags behind our standard text-books. We note the continued absence of any mention of any drugs or anything bearing on pharmacotherapy.

THE PRACTICE OF MEDICINE. A Text-Book for Practitioners and Students, with special Reference to Diagnosis and Treatment. By JAMES TYSON, M.D., Professor of Medicine in the University of Pennsylvania. Second Edition. P. Blakiston's Son & Co., Philadelphia.

THERE is little to be said in further comment on this, the second, edition of Tyson's Practice than was said in our review of the first edition. It is a work creditable to both writer and publisher alike. The changes which have been made in this new edition have been mainly in the chapters on the infectious diseases and the nervous system. The necessary changes incident to the rapid increase in knowledge concerning bacteria have been made and the section on the infectious diseases, from a descriptive standpoint, at least, compares very favorably with anything we have in the English language.

The section on diseases of the nervous system has been entirely recast. It is a thoroughly trustworthy guide to the student and is particularly commendable in that so much information has been compressed into comparatively few pages. The discussion on cerebral hemorrhage is above the general average text-book presentation of this subject.

THERAPEUTICS: ITS PRINCIPLES AND PRACTICE. By HORATIO C. WOOD, M.D., LL.D. Eleventh Edition. Remodeled and Rewritten by HORATIO C. WOOD and HORATIO C. WOOD, Jr., M.D. J. B. Lippincott Company, Philadelphia and London.

IT is a tax on the reviewer's ingenuity to be able to say anything new when an eleventh edition is under consideration and for the most part it is unnecessary when such a veteran as this is to be discussed. There are, however, some radical departures from the older editions in this new one. With such as are concerned with a change in form, the reader is little interested, although the cumbersome style, which was the inevitable result of the interpolations due to successive revisions, was a distinct drawback to earlier texts. The entire rewriting of the text, therefore, in this edition has given it a continuity which before it greatly lacked. The peculiar choppy sentences of the older editions, cut up as they were with references to all the old monographs, have disappeared and there is presented a continuous account of the subject which is much more easy to read.

Another feature, which will undoubtedly prove of service to the busy man, is the short summary, printed in heavy type, which accompanies each drug. This adds a pedagogic value to the work which has always been lacking. It makes it a work for students as well as for specialists.

In this new recasting the work regains its old time position, as perhaps our best exponent of the practice of rational therapeutics.

TEXT-BOOK OF PHYSIOLOGY. Edited by Dr. E. A. SCHAFER; Professor of Physiology, University of Edinburgh. Volume II. The Macmillan Company, New York.

AT the outset it may be said that we consider this the best text-book presentation of the subject-matter of physiology extant, recent Continental text-books notwithstanding.

One of the reasons for this statement is the wide cosmopolitanism shown in the individual chapters. The separate sections are treated by men of acknowledged reputation and in their mode of handling the subjects, they have left little of value unstated and have reduced many physiological monographs to their essentials.

Comparisons are out of place in a discussion of the merits of the different sections, but special praise is due to the editor for his able handling of the intricate subject of the nerve-cell and to Drs. Langley and Sherrington for the chapters on the sympathetic nervous system, the spinal cord and lower cerebral centers. Dr. Langley's chapter on the sympathetic and its relations is particularly valuable at this time when epoch-making researches in this field of physiology are imminent. An interesting and instructive chapter on the physiology of electrical organs is contributed by Dr. Francis Gotch and the discussion of the nature of the electrical reactions to nervous stimuli is suggestive and timely. Hill's study of the mechanism of the circulation of the blood is a most valuable chapter, based largely on Tigerstedt's masterly monograph.

The publishers' part has been most admirably carried out. These volumes are indispensable to the physiologist, necessary for the student and of supreme value to the practitioner.

APPENDICITIS AND ITS SURGICAL TREATMENT, WITH A REPORT OF ONE HUNDRED AND EIGHTY-FIVE OPERATED CASES. By HERMAN MYNTER, M.D. J. B. Lippincott Co., Philadelphia.

THIS is the third edition the author has brought out and it has been thoroughly revised and brought up to date. The histories of the cases have been omitted in this edition and in their place a classification according to their different forms has been substituted. The volume opens with a historical introduction, and the anatomy and histology of the appendix are minutely described. Under etiology, some of the predisposing causes mentioned are indigestion, constipation, previous attacks,

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dysentery, etc. Exciting causes are coproliths, foreign bodies, microbes, strictures, kinks and mechanical obstructions. Under pathology he makes use for descriptive purposes of three forms, simple catarrhal, ulcerated, and infectious appendicitis.

Clinically he distinguishes simple appendicitis, appendicitis with perforation and local circumscribed abscess, appendicitis with gangrene without perforation, appendicitis with gangrene, perforation and diffuse peritonitis, and chronic recurring appendicitis. The symptoms most frequently present are pain, tenderness to pressure, vomiting, constipation, rigidity of the abdominal muscles, tumor, chill, fever, costal respiration and leucocytosis. The treatment advised is surgical. The sooner these cases are operated on, the better, especially those beginning with acute pain, vomiting, rigidity, and fever which does not recede inside of twenty-four hours.

In this work the author has given us the conclusions arrived at by many of the surgeons, not only at home but abroad, and credits the Americans with first recognizing the fact that the disease is one for the surgeon to deal with exclusively. Its pages can be read with profit by both the surgeon and the general practitioner.

A MANUAL OF MEDICINE. Edited by W. H. ALLCHIN, M.D., F.R.C.P., London. The Macmillan Company, New York.

THIS is the second volume of Professor Allchin's Manual and contains a continuation of the subject of general diseases. The principal contents are diseases caused by parasites, diseases determined by poisons introduced into the body, primary perversions of general nutrition and diseases of the blood.

The chapters on obesity, on diabetes mellitus, on gout, on rheumatoid arthritis and on myalgia are very interesting, practical résumés of the present state of our knowledge with regard to these important but obscure conditions.

In the discussion of chronic rheumatism it seems too bad that more weight was not laid on the fact that careful differentiation will exclude, most of the symptoms ordinarily called rheumatic from any connection with chronic rheumatism. Most of the recurrent pains of patients beyond middle life are not rheumatic in origin, but are due partly to occupation neuroses, partly to injuries in early life and consequent interference with peripheral nerve nutrition and partially to vasomotor disturbances with a neurotic basis.

On the whole, this second volume maintains very well the thoroughly practical character of the first volume and gives promise that this set of handy medical manuals will be of distinct service to the practitioner.

Dioptry and Other Optical Papers, with 110 Original Diagrams. By CHAS. F. PRENTICE, M.E. "Opticist." Published by the Keystone, Philadelphia.

WITHOUT question figures, like those so generously employed by the author in the text of his papers, help the understanding. There is also undoubtedly a fair number of readers who wish for just this help in the optics of refraction, all the more because the ground covered is the least familiar to the average oculist. Therefore, we think many oculists will desire to possess and study this book. Yet, we must confess to a belief that not many of them will relish the complicated trigonometrical formulæ employed in Section II. to show the behavior of combined cylindrical lenses. Section III. has forces of a more practical character in its treatment of prism-dioptry, measurement of prisms, prescription of prisms, sphero-toxic lenses and refraction in presbyopia. The author deserves a fair meed of praise for these papers put together in such excellent form.

BOOKS RECEIVED.

The MEDICAL NEWS *acknowledges the receipt of the following new publications. Reviews of those possessing special interest for the readers of the* MEDICAL NEWS *will shortly appear.*

DISEASES OF THE ANUS AND RECTUM. By Drs. D. H. GOODSALL and W. E. MILES. Part I. 8vo, 310 pages. Illustrated. Longmans, Green & Co., London, New York and Bombay.

THE NURSING PROFESSION. How and Where to Train. Edited by SIR HENRY BURDETT. Demi 8vo, 370 pages. The Scientific Press, London.

A MEDICO-LEGAL MANUAL. By WILLIAM M. KEYSOR. 8vo, 317 pages. Burkley Printing Company, Omaha.

THE ESSENTIALS OF PRACTICAL BACTERIOLOGY. By Dr. H. J. CURTIS. 8vo, 289 pages. Longmans, Green & Co., New York, London and Bombay.

AN INTRODUCTION TO PHYSIOLOGY. By Dr. W. T. PORTER. 12mo, 314 pages. Illustrated. The University Press, Cambridge, Mass.

INTERNATIONAL CLINICS. Edited by Dr. HENRY W. CATTELL. Vol. IV., 1901. 8vo, 312 pages. Illustrated. J. B. Lippincott, Philadelphia.

TRANSACTIONS OF THE MISSISSIPPI VALLEY MEDICAL ASSOCIATION. Twenty-sixth Annual Session. Vol. II., 1900.

THIRTIETH ANNUAL REPORT OF BOARD OF COMMISSIONERS OF PUBLIC CHARITIES OF THE COMMONWEALTH OF PENNSYLVANIA for 1899.

THE YEAR-BOOK OF THE NOSE, THROAT AND EAR. Edited by Drs. G. P. HEAD and A. H. ANDREWS. The Year-Book Publishers, Chicago.

THE AMERICAN YEAR-BOOK OF MEDICINE AND SURGERY FOR 1901. In Two Volumes. Edited by GEORGE M. GOULD. W. B. Saunders & Company, Philadelphia and London.

OBSTETRIC AND GYNECOLOGIC NURSING. By Dr. E. P. DAVIS. 8vo. 402 pages. Illustrated. W. B. Saunders & Company, Philadelphia and London.

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THE MEDICAL NEWS.

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ORIGINAL ARTICLES.

ADVERTISING IN THE PROFESSION.[1]

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OF CHICAGO;

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THE subject of advertising in the profession is entirely too broad for consideration in a single paper. It is one of the most vital questions pertaining to latter-day medical practice. We may enact the rôle of the ostrich with his head in the sand as much as we please, but the advertising problem is one from which we cannot escape. Perhaps if we follow the example of the ostrich, the problem might not stare us in the face, but, to use an Irish bull, it would still confront us. Time was when the question of professional advertising was simplicity itself. Those of us who graduated twenty or more years ago will recall that the commandment, "Thou shalt not advertise," covered the ground without any apparent necessity of hair-splitting niceties of distinction. On entering practice, however, we found things differing from our ideal. We found that that ideal was more often honored in the breach than in the observance. We found that we had taken the medical eleventh commandment too literally. Its correct interpretation should have been, "Thou shalt not be caught advertising, nor shalt thou pay for it openly." We very quickly discovered that living without advertisement in the practice of medicine was all moonshine, that we were compelled to advertise in one way or another or starve. The exigencies of the situation have from year to year increased the necessity of advertisement, have lessened opportunities for surreptitious advertisement, and compelled the adoption of methods on the part of some of our brethren whose motto, "Get there, Eli," would cause a Chatham Street Jew to blush.

Our medical forefathers gazed complacently upon the code of ethics as containing all that was good and pure and holy in the medical faith.

All the evidence goes to show that times have vastly changed since the code was written, and that the profession is surreptitiously trying to adapt itself to that change. In this endeavor it is perhaps by no means surprising that certain members of the profession have gone to the last extreme and adopted methods which put out-and-out advertising to the blush. The struggle for readjustment of our ethical notions will continue until out of the chaos of dishonest commercialism and shady methods comes a practical system of medical ethics that shall contain fewer inconsistencies and fewer absurdities than the code by which we have professed to be regulated for many years. It is a singular fact that the latter-day physician and surgeon has shown a tendency to adopt lines of conduct removed to the farthest extreme from the code. When backsliding began it seems to have progressed with a vengeance. Pecksniffs a plenty there may have been among past supporters of the ethical interpretation of the code, but nowadays the Machiavellis outnumber the Pecksniffs.

It is my belief that "Thou shalt not advertise," was of necessity written in a Pharisaical spirit, and that it has been the cloak of more inconsistency and hypocrisy than anything ever written for the guidance of medical men. Whatever the conditions may have been at the time the code was written—and I do not believe they differed in kind from those prevailing at the present day—conditions nowadays absolutely demand advertising of one kind or another on the part of medical men. The physician may gloss this necessity over, and he may deceive himself into the belief that he is not given to advertising, but the fact still remains that he must advertise or starve. All roads lead to Rome, and it is by no means necessary that the physician should advertise in the newspapers or by handbills, in order to accomplish his ends; nor does it follow that he is unjustified or unworthy of respect because under the stress of his environment he advertises in one way or another. If the opinions of those who champion the cause of the commission-giving and commission-taking doctor should be accepted by the profession, it would no longer be possible to classify advertising on the part of physicians. There is nothing lower in the scale in advertising than the commission business. Give the medical man the privilege of sending out paid agents, or employing professional drummers on commission, and he will have nothing more to conquer in the world of advertising. Commission practice, in point of effectiveness, bears the same relation to ordinary advertising that accurate rifle-shooting does to inexpert shotgun practice. With the professional drumming sleuth on the trail of an operation case, it is hardly possible that it could escape. I believe, however, that the reputable members of the profession discountenance such methods as those involved in commission-paying, commission-receiving, and medical and surgical drumming.

The most important forms of professional advertising are college advertising, medical writing, social advertising, church advertising, secret society advertising, and that indefinable something

[1] Read before the Physicians' Club of Chicago, January 28, 1901.

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known as newspaper prominence, which is called advertising by the fellow who can't get it, and is considered a laudable enterprise by the fellow who does—the old story of the pigs in the clover patch. As is true of all other affairs in human life, it is a noteworthy fact that it is the pigs outside the fence that do most of the squealing.

It would require a book to do justice to the various phases of advertising; besides, we are all treading on thin ice, and if the subject were threshed out too thoroughly some of us might slump through.

College and hospital advertising affect us most. The necessity of obeying the spirit while violating the letter of the code upon advertising, has been the chief factor in the multiplication of medical colleges. I am well aware that most teachers pose as philanthropists. They would not advertise for the world—that is, unless they thought they could get the world. But I have no hesitancy in saying that self-advertisement is the foundation stone upon which the average college teacher builds his hopes. I do not say that this is true of all—for some are salaried—but I have mighty little respect for the fellow who claims that he is teaching for the love of humanity, believing as I do that Charles Lamb, or whoever it may have been, was correct when he said, "Humanity is I, writ large." Colleges have multiplied to such an extent that one of the best advertisements a man can have in the profession nowadays is that he is not a professor. If colleges keep on multiplying, as they have during the last few years, our medical teachers will be "professors" indeed. There will not be enough students to go round, and our teachers will have nothing to do but—"profess."

I have no doubt that in former days the advertisement incidental to college teaching was more or less profitable to the incumbent of a Chair, and I suppose every man, who has been teaching for a number of years, thinks that it is still profitable. It is not really profitable, however, because very few men who occupy college positions are gleaning greater financial rewards from their practice than they would now be doing had they never connected themselves with a medical school.

The time is approaching when the medical profession will be compelled by its own necessities to limit the number of medical colleges and the number of medical students. The medical teacher is engaged in two evils: (1) Educating competition to himself and others. (2) Inducing young men to enter an already overcrowded profession. Ere long the medical man will become inspired by a spirit of professional altruism and will do his utmost to prevent young men entering the profession of medicine. The output of medical graduates must be checked, else the profession will be reduced to the same pitiful plane that it occupies in certain European countries. So keen has competition become that teachers in certain colleges are now cutting each other's throats, so to speak, in order to obtain, shall I say practice, or business? I will illustrate by citing a hypothetic case.

A hypothetic medical school in a presumptive great metropolis has in its faculty, we will say, a round half-dozen (mind you, I do not say a square half-dozen) surgical teachers. Some of these teachers are content to let their work speak for itself, and to appeal to the Alumni of the institution only through their ability as teachers and operators. A certain proportion, however, of the aforesaid coterie of surgical teachers bids for the patronage of the Alumni of the institution by offering a commission of fifty per cent. on all surgical cases referred to them.

It would be interesting to know in what way the work of a surgical teacher who does not prostitute his position can become profitable to him with such degrading competition so near him. It would also be interesting to know of what value surgical instruction is to the graduates of such a school after they have learned from some of their eminent teachers that it is more profitable to send cases to the latter at fifty per cent. commission than it is to operate themselves. I submit this illustration to the thoughtful consideration of the profession.

The young man who starts out in practice with the intention of doing surgery commands at first relatively small fees. He may be perfectly willing to give a percentage of his fees for such operations as are brought to him; but the practitioner who has a case to "steer" says to himself: "If I take this case to young Dr. A., he probably will not be able to get more than $200.00 out of it, which will leave only $100.00 for me. If I take it to Professor B., he can get $1,000.00 out of it, which will give me $500.00." Under such circumstances, it is hardly to be supposed that the general practitioner would be like the far-famed jackass between the two bundles of hay. Can it be possible that our young medical men cannot see that such methods will eventually absolutely demoralize the profession, to say nothing of the dishonesty and degradation of such practices and the creation of a surgical trust? Many pages might be written on the subject of college advertising, but it would be difficult for me to present in a more striking manner the trend of medical college advertising at the present day.

There is, however, one point in connection with medical college positions that I wish to touch upon. It is a noteworthy fact that among European teachers it is customary to print college titles upon their professional cards and stationery. I do not suppose that they are any less ethical than we, but I submit the proposition that this method of advertising is not one whit worse than the appearance of the titles of teachers in college announcements. I believe the time has passed when it is reprehensible for the physician in

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general, and the teacher in particular, to lay his wares before the possible consumer. There has been too much hiding of the professional light under the bushel of hypocrisy and surreptitious methods of advertising.

In this connection the dispensary and free clinic route to fame deserves consideration. The profession has long been suffering from moral strabismus, superinduced by gazing too fondly at the large round American dollar, which looks so near, yet is so far away. A number of men may incorporate a hospital or dispensary clinic and all is ethically well. One man, or even several men, may not organize a private concern of the same kind for advertising purposes without losing caste. It would be well for the profession at large to conduct its own free clinics. Let every man who so desires designate hours for the poor on his cards. This will do much toward killing deadbeatism, and regulating hospital and dispensary evils. Let there be one law for all!

Apropos of college and hospital positions and professional cards, I remember with some amusement an early experience of my own. I managed to muster sufficient courage to have printed upon my first professional card many years ago, "Late Resident Surgeon New York Charity Hospital." A distinguished medical gentleman in this city, after conference with an equally distinguished confrère, visited me and assured me that I was a nice young man gone wrong. I promised not to do it any more, and I fully intended to keep that promise, but a day or two thereafter I saw an item in a newspaper to the effect that my two distinguished friends had just performed "a formidable and successful operation for the removal of a sebaceous cyst, fully as large as a hen's egg," from the cranium of one of our prominent West Side citizens. I then made up my mind that the wen was mightier than the card. I did not destroy my cards.

Hospital advertising might be termed a subdivision of college advertising. What I have already said regarding the payment of commissions to college men applies equally well to hospital men, and perhaps with greater force, especially my remarks on the surgical trust.

The extreme to which college advertising, or rather, in this instance, conjoined college and hospital advertising, has been carried in certain quarters is very suggestive. It has been rather edifying to read in one of our prominent evening papers the advertisement of a certain post-graduate school in Chicago. This post-graduate school announces to all and sundry that it is prepared, not alone to teach medicine, but to teach practitioners of medicine. The names of five of the faculty are affixed thereunto. No newspaper advertiser could ask for a better thing than this. It would be interesting to know what proportion of the professional clientèle of this post-graduate school is accessible viâ the daily press. Can it be possible that the school caters only to the patronage of physicians who read no medical literature, but rely exclusively upon the advertising columns of the daily press for their intellectual pabulum? It would also be interesting to know whether the other members of the faculty were mulcted for the aforesaid advertisement. If they were, they would be justified in open rebellion.

Speaking of the value of college positions as a means of advertisement, a somewhat recent experience of my own shows that they are used by different men with varying degrees of effectiveness. It is not even necessary to have a position of one's own in order to use the college as a means of advertisement. I relate the following incident because it is really funny.

It so happened that some months since, by reason of multifarious complaints, real and imaginary, I was unable to fulfil my college duties. Without any inquiry being made as to whether the party selected would be acceptable to me, a certain individual was appointed my substitute. He immediately proceeded to prepare a course of lectures in accordance with his own notions, and without deigning to consult me as to what portion of the course remained to be covered or other little details that a man of average intelligence should have known were necessary in the premises. I meanwhile requested another gentleman to fill my hours for the remainder of the term. Substitute No. 1, upon the assurance of somebody or other that I had both feet in the grave, published his picture and life history in all the newspapers in Chicago, along with the wonderful surgical inventions with which he had blessed a benighted surgical profession and the announcement of his appointment to my Chair. He submitted a paper to the Editor of the *Journal of the American Medical Association* for publication, to which he appended the titles pertaining to my Chair. Fortunately, the paper was returned as ineligible. The medical journals, quoting from the Chicago daily papers, announced the change of professors in the college, and as I was never known to resign anything, my professional friends throughout the country labored for some time under the delusion that I was dead. Which reminds me of a rumor which once spread abroad to the effect that Mark Twain was dead in London. On hearing of it, Mark promptly sent a cablegram to this country, reading: "The rumors regarding the state of my health have been greatly exaggerated."

The extent to which the specialist may advertise his specialty has long disturbed the already over-burdened conscience of the profession.

It will be remembered that, once upon a time, when the Fool-Killer was away on a vacation, the members of a learned National

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Society wrestled long with the question of Ophthalmologist and Otologist vs. Oculist and Aurist. It was finally decided that a man who printed on his cards, "Oculist and Aurist," was a goat and the sheep would have none of him. If he expressed it, "Practice Limited to Diseases of the Eye and Ear," he was a milk-white lamb with wool a yard long. I wonder how many of those latter-day saints are drumming for "business!" The profession has kept on swallowing its cud, until now one may put on his professional cards, "Diseases of Women Only." But if he print, "Diseases of Men Only," he will be brought to book for his ignorance of the comparative esthetics of leucorrhea and suppressio mensium, and spermatorrhea and varicocele.

I presume that the term social advertising is somewhat offensive to members of the profession who believe that their success in life depends upon their own intrinsic greatness. But if we are honest with ourselves, we must admit that this form of publicity and promotion is one of the most important factors in securing practice. Some are very much more expert in self-advancement in this direction than others. The man who has had a talkative wife for his advertising agent is perhaps the most brilliant success in this line, providing she talks only of his greatness and is impersonal in her discussion of his clientèle. When the endurance and mechanical excellence of a talking machine are combined with the qualities of a female diplomat in the doctor's wife, it is difficult to see how he could possibly make a failure in life. In these piping days of competition I would advise the young doctor who is ambitions for speedy success and popularity, first, to marry rich; second, if he cannot marry rich, to marry a female talking machine. One of these ladies with a few pink teas and yellow breakfasts can give her young doctor husband more of an impetus on the road to fame and success than many barrels of midnight oil. He who bloweth not his own horn, the same is sometimes blown by his wife.

Church advertising and secret society advertising are very much of the same kidney. There is merely a difference in politics. Of course, the church-going doctor, especially the man who belongs to several churches or rents pews therein, will repudiate the insinuation that he has an object in view, but that time-worn "gag" fools nobody, not even himself. Personally, in the days of my youth, I liked the secret society dodge better, perhaps because I was more familiar with it. But I wish to say right here and now that, unlike some of my more modest brethren, I never flattered myself with the unction that I was staying up nights for my health. I will frankly confess, that my ideas of the value of that sort of advertising were rather exaggerated because, I fancy, the competition was so keen.

Is there any tinge of selfishness in the aims of medical writers? I presume there are men in the profession who are possessed of sufficient egotism to believe that they are conferring a distinct benefit on humanity by all their scientific writings, and who, with this idea in mind, lose sight of the possible value of their literary work to themselves. I believe, however, that aside from the limited few of these ego-maniacs, the average medical writer, if you can involve him in a heart to heart talk, will confess that he has written primarily for No. 1. Most medical writers would devote their attention to something more profitable than literature if they felt that their efforts resulted only in self-improvement and good to humanity at large. The man who writes articles and publishes reprints is engaged in advertising. He is, however, advertising to his competitors, which is the longest possible road to the consumer and therefore tolerated by the profession. There are those in our profession, however, who are very impatient with the medical writer because of the implied attempt to advertise himself. This position is absurd. The value of literature to the reader is by no means determined by the object which the writer has in view. The man who writes to advertise himself is quite likely to give the reader his best effort, for in this field, as in every other, competition is keen. The man who throws a reprint into his waste-basket simply because he thinks the author is using his reprints as a means of advertisement makes himself ridiculous. The author in the field of general literature often gets his reward—why then should not the medical writer? The medical writer must needs content himself with the advertisement of his work. The "all hog" publisher will not recompense him. Just think of writing a text-book for a beggarly five per cent. royalty, or, as my publisher puts it, five per cent. royalty after the publisher has recouped himself, alterations and amendations to be charged up to the author. If some of us got as little fame out of our work as we do money out of our publishers, I fear the literary mill would not grind so assiduously.

The question of newspaper notoriety has caused more secret misgivings and bitterness of spirit in the medical profession than almost anything that could be mentioned. The young man who has not yet attained sufficient prominence to enable him to secure newspaper notoriety, and the old man who has been a professional vegetable all his life, alike bitterly resent any representation of their more fortunate professional brethren in the newspapers. In a general way, it may be said that only advertising quacks and the big men of the

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profession are the ones to whom the columns of the newspapers are open.

The unwritten law of the medical profession, that its members should keep themselves in the background, has been the greatest stumbling-block to professional advancement. The medical profession to-day has no particular social, commercial, financial, or political importance. Why? Simply because of the bigotry and intolerance of the profession itself. I hold that every physician or surgeon who becomes important in the public eye, either socially, politically, or in commercial enterprises, is a powerful factor in the advancement of the best interests of the profession. The profession is poor; the profession has no particular "pull" in either commercial or political lines, and yet we wonder why it is impossible to get legislation against quackery and various form of medical faddism. As a matter of fact, the doctor, as such, is a nonentity in the community. The medical man who makes a political speech, or becomes identified with a successful commercial venture, or is spoken of frequently and in a complimentary way by the newspapers, immediately becomes a target for the abuse and invective of the profession at large. This condition of affairs must change. I hold that it is the duty of every man in the profession not only to himself, but to the profession, to bring himself before the public, as a citizen and a representative of the profession, where it can be done respectably, at every possible opportunity. The doctor should take interest in politics. He should be a man of affairs. If he accumulates wealth, the profession should not consider it a high crime and misdemeanor, but a distinct advantage to the profession at large. By proceeding along these lines the time will come when we, as a profession, can command legislation, instead of being compelled to beg it like a lot of mendicants as we are at the present time. The quack has votes; the quack has money; the quack has pull and newspaper influence, and we have nothing; not even the gratitude of the people to whose welfare we devote the best years of our lives.

In speaking in favor of newspaper representation of medical men, I do not mean that they should publish their operations or premature accounts of alleged wonderful discoveries in the papers. The example set by certain Eastern surgeons, men of the highest prominence, in inviting reporters or permitting reporters to be at their operative clinics, cannot be too strongly condemned. I believe, however, that signed articles of a quasi-scientific character by medical men, from which the public can derive intelligent information on scientific subjects—and particularly matters medical—first hand, should be considered ethical by the profession. There is only one way to down quackery, and that is by educating the people to an intelligent understanding of what we are and what we are doing. The public is bound to make comparisons, and if it has any data upon which to base such comparisons, the quack will have much less advantage in the competition than he now possesses. We expect too much of the public. We expect it to draw hard and fast lines between quackery and legitimate medicine, while the quack is stating his case and the medical man is retiring behind the bulwark of his professional ethics and dignity.

As for new discoveries, it is high time that the frantic rush into print of the original investigators, so-called, who has discovered a lot of things that "ain't so," should be stopped. A newspaper account of a wonderful discovery was recently published, which was based upon experimentation with a borrowed apparatus on a single dog, the day before.

Careful, conscientious work and good results, bringing as they do in their train the good will and approbation of the laity, constitute the best advertisement that the physican can have. We all know this, but "first catch your hare." In order to do good work, and get good results, we must have patients, and it is the attributes that the public thinks we possess rather than those which we do possess which bring us our patients. The layman comes to each of us because he thinks we are as good or better than our neighbors in the profession. Those of us who are conscientious know how often the layman deceives himself. Be that as it may, however, the profession must first catch its hare by some sort of advertising, else its prospects of a dinner will be slim indeed.

RESECTION OF THE CERVICAL SYMPATHETIC.*

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FOR the clinical history of the following case, the privilege of operating, and much valuable assistance during the operation, I am indebted to my friend, Dr. J. H. Shorter, Ophthalmologist to the Macon Hospital.

T. P. W., white male, aged eighteen years, received a perforating lacerated wound of the cornea and iris of the right eye in 1887. Sympathetic trouble began in the left eye in September, 1894. For this latter condition he received antiphlogistic treatment to the left eye, and enucleation of the right globe. In June 1897, vision—$^{20}/_{100}+$. One year later cataract had developed, further impairing vision, while the tension of the globe had increased to +2. Iridectomy was then performed with partial success in reducing the tension. Later tension again increased. At the time he was referred to me for operation, July 5, 1900, he was suf-

* Written for the Southern Surgical and Gynecological Association, Atlanta, Ga., Nov. 13, 1900.

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fering from secondary glaucoma dependent upon sympathetic iridocyclitis plastica; vision was reduced to light perception and there was continued increase of intra-ocular tension, + 2. There was circumcorneal injection and more or less pain in and around the left eye.

On July 7th he was anesthetized by Dr. Derry, and, assisted by Dr. Shorter and Dr. Carswell, I performed Jonnesco's operation, resection of the superior cervical sympathetic ganglion. An incision, about three inches long along the posterior border of the left sternocleidomastoid was made from the mastoid process to about the middle of the neck, just missing the external jugular vein. Behind the sternocleidomastoid the tissues were separated, exposing the trapezius muscle; the sheath of the carotid containing the artery, the internal jugular vein, and the pneumogastic nerve was found. Back of the latter and separated from it by the thin carotid sheath the ganglion was located lying on the major rectus-capitis muscle. So close together were the two nerves, and so nearly of the same size and appearance, that there was some hesitancy in deciding between them. By alternately pinching them and watching the effect on the rapidity of the pulse, the pneumogastic was recognized and dropped. Stripping the sympathetic ganglion and cutting away its branches, its lower end was severed from its continuation below, then with curved scissors the upper end of the ganglion was cut just as it emerges from cranium. The wound was then closed and properly dressed.

Within a few minutes the conjunctiva was greatly congested, the eyes suffused with tears, slight left lateral sweating, with redness of the side face and ear, began, and there was some flow of nasal mucus. The next day the patient had reacted well, pain in and around the eye was relieved, there was ptosis of the left eyelid, but owing to fixation of the iris to the capsule of the lens, no change of the pupil was observed. In addition to the above symptoms, there was complete anesthesia of the left ear and marked huskiness of the voice. The conjunctival injection, the lacrimation and nasal discharge gradually disappeared.

July 16th, when he was discharged from the hospital, intra-ocular tension had reduced from + 2 to normal, pain was entirely relieved and the patient claimed improvement in vision. Ptosis had slightly increased, and the globe had receded to some extent. The voice continued husky, due, it was found by the laryngoscope, to paralysis of the left vocal cord, while anesthesia of the lobe of the ear was still present.

October 26th, Dr. Shorter reports that tension remains normal and that the field of vision is widened, but that he can find no improvement in acuteness of vision. The patient, however, stoutly maintains that he does see better and is urgently awaiting a promised operation for removal of the cataract by Dr. Shorter. He has had no pain since the operation. Ptosis is still present, though improving; the anesthesia of the ear and paralysis of the vocal cord is almost entirely relieved.

It must be understood that the two last symptoms are not dependent upon the sympathectomy, but were the results of unintentional wounds of special nerves, occurring in the course of the operation, and are not necessarily present in every operation.

Before beginning the discussion of my subject, I wish to distinctly state that this operation was not undertaken with any hope of improving the sight of this patient, but it was performed solely to relieve the pain in the eye and reduce the tension of the globe, thereby saving what vision there was from the destructive effect of a gradually increasing glaucoma. If there has been any improvement, it is more than we expected, for the opacity of the lens and its capsule is the main barrier to vision in this patient.

Division of the sympathetic nerve in the neck is an old experimental operation employed by physiologists to demonstrate the action of the sympathetic nervous system on the vegetative life of animals, its control over the vaso-constrictors in organs and tissues and its influence on the involuntary muscular system. Claude Bernard in 1851 first demonstrated that vascular congestion and increased secretion followed section of the sympathetic nerve. Jonathan Hutchinson, in 1866, recognized the ocular symptoms attendant upon paralysis of the superior sympathetic ganglion. Jonnesco and Floresco,[1] applying the technic of experimental research to patients about to have resection of the cervical sympathetic performed, have demonstrated the identity of the functions of this nerve in man and animals.

Irritation or stimulation of the superior cervical ganglion causes pallor of the head, dilation of the pupils, and prominence of the eyeballs; irritation of the inferior ganglion accelerates cardiac action; while stimulation of the middle is supposed to hasten the thyroid circulation; less is, however, known of the thyroid sympathetic control. Section of the superior nerve causes congestion of the head, lowered tension in the eye, paralysis of the dilators of the pupils and of the smooth fibers of the upper eyelid; retarded pulse follows section of the lower ganglia. Unilateral warmth, flushing, sweating, lacrimation, increased nasal secretion and saliva are the transitory symptoms of unilateral section of the first ganglion; the permanent symptoms, regardless of disease, are narrowing of the pupil, ptosis and retraction of the bulb.[2]

Reasoning from its physiological effects for its therapeutic results, sympathectomy has been undertaken for the relief of glaucoma, exophthalmic goiter and epilepsy. Recently it has been performed in vertigo of cerebral

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anemia (once), and essential migraine (once) by Jonnesco, in facial neuralgia (three times) and spasmodic torticollis (twice), once by Chipault[3] and once by Kalmus[4] all reporting successful results. As a surgical procedure, it dates its birth practically from 1895, and its value is still in doubt, awaiting for its answer the test of time.

Abadie, basing his deductions on the theory that glaucoma is dependent on vaso-constriction, was the first to advise resection of the supreme ganglion in order to overcome the tension of the circulation in the eye in this disease. Dilatation of the arteries resulting from the operation, the blood-pressure is thereby lowered and extravasation is diminished; the pupil becoming contracted, the iris angle and the secretory canals are relieved of pressure, giving the aqueous humor a ready means of escape; and, further, the peribulbar muscles are relaxed, thus relieving the venous circulation. More blood circulates through the eye and the orbital region, nutrition is improved, and waste products are more readily removed.[5]

In addition to the symptoms always present on section of the sympathetic, there is in glaucoma immediate relief of pain; intraocular tension falls in a few days to normal or below, and improvement of vision begins. In some cases tension is relieved at once. Zimmerman noted in one case a fall from 2½ to much below the normal just after the operation; Dr. J. M. Ball of St. Louis[6] in one case saw it fall from + 2 to + 1 in twenty-four hours, and in a second case from + 3 to +1 in a short time. In my case, how soon the tension fell I cannot say, as Dr. Shorter could not make an examination until the tenth day; it had then fallen from 2 to normal. In cases where vision is not entirely lost, improvement is gradual. Mohr reports improvement from $^{5}/_{15}$ to $^{5}/_{9}$, with an extension of the field of vision from 5 to 10 degrees; Abadie saw vision increase after several months from $^{1}/_{10}$ to ⅓ on the left and ½ to ⅔ on the right.[7]

In Europe the operation has been performed in glaucoma more than thirty times by Abadie, Jonnesco, Chipault, Zimmerman, Demercheri, Mohr, and others, with almost unvarying success, and it has become one of the established operations abroad. Cases are reported of relief lasting up to the third and fourth years after operation. In America the operation has not become so popular. J. M. Ball in a personal letter states that he can learn of only three other surgeons on this side who have performed sympathectomy for glaucoma, G. F. Suker, of Toledo, D. H. Coover, of Denver, and A. R. Kiefer, of St. Louis. Each of these has done one successful operation. Dr. Ball has himself operated five times, four times for glaucoma and once in atrophy of the optic nerve. Since his paper was read at the International Ophthalmological Congress at Utrecht, and published in the *Journal of the American Medical Association* last June, he writes he has operated once for hemorrhagic glaucoma in a young man aged twenty-five years, left eye completely blind, tension + 2, pupil widely dilated, the ophthalmoscope showing numerous hemorrhages and cupped disc, heavy continuous pain in and around the diseased eye. He had been advised to have enucleation performed for relief of the pain. Dr. Ball performed resection; one year later the eye is quiet, entirely free from pain, and tension is normal. Had sympathectomy been performed before vision was lost, he believes that the sight would have been improved. Abadie, he states, reports a similar case operated on in the earlier stages with good visual results. From his study of glaucoma, Dr. Ball is led to believe that the disease is an effect of pathological changes in the sympathetic nervous system, resulting in microscopical changes in the nerve tissue of the superior cervical ganglion. He has kindly loaned me some drawings of sections of a normal ganglion and of excised ganglia removed for glaucoma, illustrating these pathological changes in the ganglia fully justifying the facts of his claim. As these drawings are to appear in his book on ophthalmology, I have taken the liberty of having copies made and present them in this connection. Prof. Ball has the honor of being the first American operator to perform sympathectomy, and also of being the first to operate in atrophy of the optic nerve.

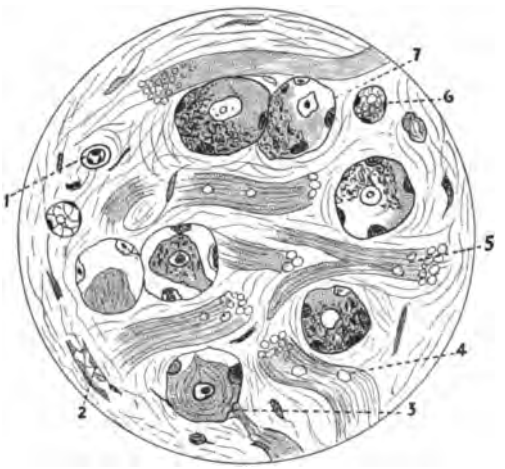

FIG. 1.

Microscopical appearance of a normal sympathetic ganglion. (Kindness of Dr. Ball.)

Sympathectomy is indicated in glaucoma simplex, inflammatory glaucoma where iridectomy has failed, hemorrhagic glaucoma early in the disease; and it should be tried in absolute glaucoma with pain, in preference to enucleation. In unilateral trouble the ganglion of the corresponding side should be excised. While sympathectomy may not be curative in

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every case of glaucoma, the results thus far have been sufficiently satisfactory to make it a desirable procedure in this much dreaded disease.

Bilateral removal of the three cervical ganglia in exophthalmic goiter is followed by relief of precordial pain, decrease of the pulse-rate and retraction of the balls of the eyes, but as far as I can learn, there is little or no early diminution of the goiter following the operation. Little is definitely known of the physiological action of the middle ganglion; its branches to the thyroid gland are supposed, however, to control its secretory activity and its nutrition. If this is true, resection of the ganglion should produce some demonstrable action upon the thyroid circulation, change its size, or paralyze its secretions; simple section fails to show any results whatever, while removal of both the superior and middle ganglia

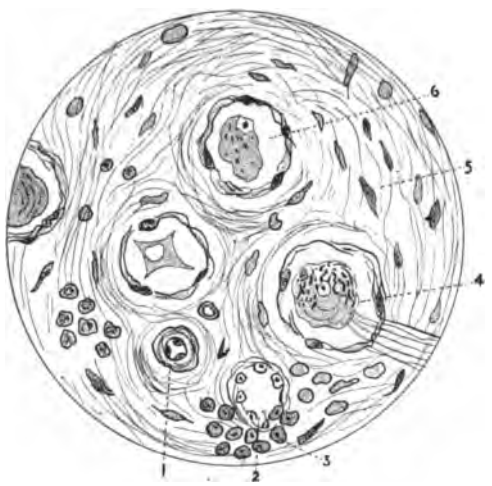

FIG. 2.

Microscopical appearance of a sympathetic ganglion removed for glaucoma. (Kindness of Dr. Ball.)
1, artery; 2, vein; 3, area of small round-cell infiltration; 4, round nerve cell; 5, connective tissue; 6, atrophied nerve cell.

alone has been abandoned as useless and incomplete in disease. Wertheimer believes that certain fibers of the sympathetic chain in the neck do control the secretory functions of the thyroid. This is doubtful, since it is stated by some operators that resection has no effect on the colloid matter secreted in the gland, as the goiter does not usually decrease in size. Combermale and Gaudier,[8] agreeing with Wertheimer, believe that after section of the main trunk the thyroid fibers cease to preside over the thyroid secretion; this secretion in the disease under consideration, being a toxin, causes the tachycardia. The drop in the pulse-rate, which is delayed, they think is due to the stoppage of the toxin secreted, for if it was due to the simple section of the nerve supply to the heart, retarded action should come on immediately. Dr. Inglis[9] entertains the theory that the group of symptoms found in exophthalmic goiter is due to the entrance into the blood of altered thyroid secretion. The normal secretion, he says, is an enzyme, affecting the tissue growth; in this disease the secretion is a poison having elective action on the nervous system, particularly the sympathetic. Possibly Dr. Inglis has mistaken the result of sympathetic nerve change for its cause. In this connection, I would suggest that possibly Dr. Ball's experience in finding microscopical changes in the superior ganglion in glaucoma cases may be true also of all the ganglia in Graves' disease; if so, these nerve changes may so affect the functional action of the thyroid that toxin secretion would be excited. Further, it is claimed that sympathectomy meets with its best results in primary exophthalmic goiter; those cases in which the tachycardia precedes the enlargement of the gland, and in which thyroidectomy is most fatal. If Dr. Ball's theory of the possible dependence of glaucoma on disease of the sympathetic system, in which microscopical nerve changes appear, is true, is it not possible that the good results of the operation in primary Graves' disease are alike dependent upon the removal of a diseased chain of ganglia which affect the eyes, the thyroid and the heart through a toxin secretion of the thyroid gland? In secondary exophthalmic goiter the operation is less favorable; here the rapid pulse and exophthalmos come on after the goiter and are dependent upon its pressure on the vagus (Jonnesco). Thyroidectomy in this condition gives better results.

Jaboulay deserves the credit of introducing sympathectomy for Graves' disease, as he first advised the operation, and on September 2, 1895, made the first deliberate section of the cervical sympathetic. Combermale and Gaudier report a case in which there was early diminution of the exophthalmos, immediate disappearance of precordial pain and a reduction of the pulse from 200 to 100 during the first week, but no modification of the goiter itself. Jonnesco reports immediate disappearance of the exophthalmos, relief of nervous symptoms referable to the heart, diminution of the trembling, tachycardia, carotid pulsation and thyroid thrill when present, and in one case a fall in the pulse from 140 to 70 and 80. In fifteen cases he has had 60 per cent. cured and 40 per cent. improved; one case he reports of unilateral operation with improvement of the corresponding side. Chipault reports six cases cured. Other European operators have had equally good results.

In America I can find only one surgeon who has performed sympathectomy in exophthalmic goiter. Learning from Dr. Hartwig (personal communication) that Dr. B. Farquhar Curtis, of New York, had once operated, I wrote to Dr. Curtis, and with his kind permission, I present the notes of his case, which has never been formally published:

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"Woman, Irish, twenty-nine years old, residence New York City, married; for two years she had had symptoms of exophthalmic goiter; admitted to Dr. Curtis' service, Bellevue Hospital, May 12, 1899. Moderate exophthalmos; considerable nervousness. Thyroid gland much enlarged, estimated size of hen's-egg on each side. Paralysis of right vocal cord. Pulse not very rapid—106 the highest. Medical treatment tried and failed during two years.

"Operation May 17, 1899. Ether anesthesia. Cervical sympathetic removed (1st and 2d ganglia and cord down to the 3d), bilateral section. Wound sutured. Primary union. No effect on pupils. Gradual improvement in nervousness and exophthalmos. Thyroid reduced in size. Paralysis vocal cord cured. Ten months later, she was presented to the Neurological Society; the improvement had continued in all symptoms except the pulse. *This was more rapid and a cardiac murmur could be heard.*" (Italics are mine.)

Dr. Curtis closes his letter with the remark that the cardiac complications in the case may be of independent origin, but that the case is one which can be classed as a decided improvement, in which I fully agree. He further says that this is the only case in which sympathectomy for exophthalmic goiter has been performed, that he knows of, in the United States. The results in Dr. Curtis' case are certainly sufficiently gratifying to encourage other American operators to follow his lead in this distressing disease. The results of resection of the sympathetic for this disease have been universally favorable, and thus far the operation has been without danger. Such being the case, total bilateral resection, although a delicate operation, is certainly superior to thyroidectomy, which is extremely hazardous, and it should be undertaken in all primary exophthalmic-goiter cases in which medical treatment has failed.

Jonnesco, basing his perseverant advocacy of the operation in epilepsy on the idea that the disease is due to a cerebral anemia, believes that complete bilateral resection of the cervical sympathetic so alters the cerebrospinal circulation that hyperemia takes the place of ischemia. Increased nutrition to the nerve-cells is thereby supplied and the toxic products of disease are rapidly eliminated. Beginning in 1896 he has up to August of the present year made 126 resections; 97 of these operations have been undertaken for epilepsy. To him, certainly, belongs the honor of doing the first complete bilateral sympathectomy, and also the credit of persistently developing its various indications. He was not, however, the originator of the operation, not even for epilepsy. Alexander of Edinburgh is credited with having performed resection of the cervical sympathetic as early as 1889; Jacksh, Baracz and Bojdanick operated in 1892 and 1893; while Jaboulay advised the operation in epilepsy in 1895. The rationale of the cure of epilepsy by sympathectomy is much less substantial than is the theory of the relief of glaucoma and exophthalmic goiter by the same procedure, while the results are far less encouraging. Jaboulay and Lanois,[10] in a study of the subject, expressed themselves as doubtful of the advisability of the treatment, having noticed that in those cases which were improved, and more especially in those cases which were cured, there was a strong hysterical element in the histories. Le Borde advises that it should be abandoned as a remedy for epilepsy. Chipault reports in August, 1900, three cases cured and twenty uncertain in results. Schober, on the contrary, in 1899, showed that not a single case had been cured in all of the operations in Paris. Carl Beck, after reporting three cases[11] comes to the conclusion that the operation has no value in epilepsy. In one other American operation, by Dr. Ed. J. Meyer and Dr. Hartwig (personal communication), as far as I can learn the result is doubtful. Even Jonnesco's latest statistics,[12] embracing his entire 97 cases, show only 12 cases cured, 7 improved, and 11 unimproved; while 45 cases, he stated, had disappeared or their results were unknown (?). Five of his cases died, not immediately, but soon after, of other complications. Still Jonnesco enthusiastically continues to operate; even extending, in his last four cases, the operation so as to embrace the thoracic ganglion. From these facts it would seem that sympathectomy in epilepsy must finally be abandoned, just as ligature of the vertebral arteries has been given over as useless if not harmful.

The physiologists claim that resection of the cervical sympathetic in animals subjected to experiment is followed by permanent trophic changes and atrophy of the brain. As yet no such results have been noted in man. The operation is still too new, only four years old, to demonstrate what ultimate deterioration may result. Thus far, however, the beneficial results have remained permanent and unless some remote baneful effects should be reported to detract from the value of the operation, sympathectomy will eventually receive a permanently recognized position as a surgical procedure in glaucoma, exophthalmic goiter, and other allied neuropathic diseases.

In this study I am largely indebted to the kindnesses of Dr. James Moore Ball of St. Louis, Dr. M. Hartwig of Buffalo, and Dr. B. Farquhar Curtis of New York for much valuable suggestion, information and material given by personal letters and clinical matter forwarded to me.

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THE QUESTION OF DRAINAGE IN APPENDICITIS.

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NEARLY every point of technic in the operation for appendicitis has, in the recent past received its full share of comment from men who have possessed liberal educations, broad clinical experiences and with records of merit in their labors. The past few months, however, has witnessed so many radical changes regarding the treatment of the wound that I take the liberty of attempting at this time to view the subject from the standpoint of drainage, or more properly speaking non-drainage.

Much of our knowledge concerning abdominal drainage we owe to the labors of the gynecologists; they recognized the fact that when abscess cavities were ruptured intraperitoneally that little or no harm came of it, providing it was *not* walled away from the rest of the abdominal cavity and that the septic material could be presented to a larger portion of the peritoneum. Septic areas in their field were cleansed with as much care as possible and the abdomen thoroughly irrigated and closed with good results. These patients showed a decrease of hernias and resulting ileus following operation and presented an earlier and firmer union, and a more tranquil convalescence, than when the cavity was drained.

About this time, general surgeons held that many of these gynecologic conditions were cases in which the pus was sterile, hence, the peritoneum was able to dispose of it without serious results; in time, however, it was shown by experiment, as well as in practice, that the peritoneum was capable, and did dispose of large amounts of specific pus, pus proven by examination to contain the staphylococcus, streptococcus and bacillus coli communis organisms, which for the most part are present in many cases of abdominal surgery.

It is an open question still whether it is the drainage or the peritoneum that takes care of the larger amount of septic material; when the fact of rapid formation of pus is considered, it is hardly possible to believe that it is all removed by drainage, for capillary attraction, the physical force to which drainage owes its application, is at best a slow process and if the peritoneum does not take care of that which is not removed by the drain, how can we explain its removal; again, granting that the gauze removes all the pus, how does the peritoneum tolerate the presence of pus that must accumulate at the bottom of the drain, during this drainage process, if it be so susceptible to infection?

That this pus is produced very rapidly cannot be denied, else we would not have the fulminating types of appendicitis. All of the authorities recognize this fact when they urge an early operation. Who has not noticed in using the glass drainage-tube how frequently pus can be drawn from it in surprisingly large quantities. All this goes to prove the inefficiency of our attempts at drainage, and not only this, but the mere presence of the drain is productive of much harm; it unquestionably produces a hyperemia and congestion of the peritoneum in closest proximity, thereby lessening the absorption by disturbing its normal currents, it also produces adhesions about the drain which in turn lessens the area of the peritoneum exposed to the infection, thereby limiting its important function of absorption.

It is believed that so long as the gauze or tube is sterile, little or no harm can come from its presence; this is erroneous; the peritoneum will tolerate no foreign body, sterile or otherwise, without a disturbance of its function, besides interfering materially with its healing.

It is known that the peritoneum is capable of disposing of large quantities of pus under favorable conditions, and chief among these conditions is equal distribution over the peritoneal area; in order to do this it becomes necessary to use some agent which will put pus and pus-forming elements into solution, and in choosing this agent some very important points to be desired may be mentioned.

1. Sterility. One species of bacteria is often inert or latent until another species is introduced, thus combining the efforts of both, and a heretofore latent sepsis becomes a rapidly active infection.

2. Power of holding in a homogeneous solution the pus as well as the blood and blood-clots incident to the operation, in order to permit of equal distribution over the peritoneal cavity. The presence of blood-clots in a septic cavity canot be overestimated; no richer culture medium is known for bacteria and these must be protected from invasion.

3. Stimulation of absorption. It is most desirable to remove all septic material as soon as possible and this is made possible by the power of absorption of the peritoneum which is enormous, namely, from 3 to 8 per cent. of the body weight in one hour.

Hot saline solution is very effective and fulfils all the requirements; it can be made sterile and introduced sterile into the peritoneal cavity; it possesses the power of putting pus and pus-forming elements, such as blood and blood-clots into solution, thus removing the danger of fresh invasion of infection, and being hot, temperature 105° to 108° F., is a most active stimulant to the peritoneum and its use is unattended by unpleasant sequelæ.

Increased hepatic activity is another step in the right direction. Such activity produces a detergent influence in all cases of general

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sepsis as well as in localized infectious processes, besides removing from the entire physical economy various substances which in themselves would aid, if not produce, septic conditions; this function is certainly worthy of careful study, as it will increase the resources of the surgeon in combating infection, since through the portal circulation we can increase the general resistance against bacteria.

Posture does much in these cases; elevation of the foot of the bed a few inches tends to gravitate the fluids toward the diaphragm and absorption is increased in this locality since the diaphragmatic lymph-spaces afford an avenue of rapid absorption of sepsis held in solution.

I herewith take the liberty to report some cases where these ideas were put in practice.

Case I.—Mrs. M., age thirty-two years; history of attacks of recurrent appendicular pain for over a year, lasting a few days and subsiding; last attack had continued for four days; tumor well defined; temperature 101.4° F., pulse 120 and threatening.

Incision was made parallel to Poupart's ligament and about 1 or 1½ inches internal to it; as the subperitoneal fat was reached, it was found to be edematous and oozed freely on incision; the peritoneal cavity was opened and the appendix appeared in the wound without search and was fully four inches long, with a peri-appendicular abscess containing about two ounces of foul pus; the appendix was removed and the stump penetrated with a probe to remove all doubt of constriction, then treated with pure carbolic acid, inverted and there secured with a purse-string suture of fine catgut. The canal of the amputated appendix showed plainly the evidences of previous inflammation by a constriction, below which was a small abscess. The entire peritoneal cavity was then thoroughly flushed with hot sterile salt solution, while a gloved hand searched the abdomen for more abscesses; none being found the fluid was gently pressed out and the cavity wiped with sterile gauze, then filled again with the hot saline solution and the wound closed by through-and-through sutures of silkworm gut, the wound was then thoroughly washed with hydrogen dioxide and dusted with a powder of iodoform and boric acid (1 to 7); sterile gauze was then applied, and a sterile bandage held all in place.

Just before coming from the table the patient was given a high rectal enema of a quart of the hot saline solution and put into a bed with the foot elevated about four inches. That night she suffered from some nausea and gas and pains incident to the operation, and next morning she had a temperature of 100.2° F., pulse of 96; an ounce of hot solution of sulphate of magnesia was ordered and about noon that day the bowels were moved freely. The stool was brown in color and liquid. Evening temperature was 99.6° F., pulse 90; the following morning found a normal temperature, pulse 82 where it remained; on the tenth day the stitches were removed and the wound was found completely closed, the scar was washed with alcohol followed with sterile water, on the twelfth day she sat up and on the fourteenth day was dressed, and has since gone on to a very satisfactory recovery.

Case II.—Laborer, German, age twenty-eight years, no history was obtainable. He was found in a moribund condition; blood-count revealed a high leucocytosis—28,000. There was an evident tumor, rigid abdominal wall. Incision was made in the same line as described. Rapidly reaching the colon, the appendix was found adherent behind the cecum. In delivering it into the wound a pus cavity was broken which discharged a large quantity of thick pus. The appendix was ruptured and contained a small concretion, the size of a small pea. After it was amputated the canal of the stump was found to be pervious, and it was treated in the manner of the previous case. The cavity was then thoroughly irrigated while the gloved hand made search. An abscess was found in the region of the liver; this was broken down and freely flushed with the hot salt solution, the tip of the tube being carried near the site. The cavity was then emptied and dried with a gauze sponge, after which it was filled with the hot solution and closed. This was followed by a high rectal enema, an ounce of sulphate of magnesia in hot water was then ordered to be given as soon as consciousness was restored. Evening temperature 100.3° F., pulse 96; next morning the temperature was 102° F., and the pulse 110. After the evacuation of the bowels occurred, there was a declining temperature and a falling of pulse; stitches were removed the tenth day, and convalescence was uneventful and complete.

Case III.—L. S., age thirty-two years, teamster, gave history of recurrent pain in right groin. Onset was sudden, nausea and vomiting, temperature 101° F., pulse 120 in the forenoon, evening temperature 103° F., pulse 132.

Operation next morning, tumor well marked, abdomen rigid. On entering the peritoneal cavity a large amount of pus was evacuated and an abscess was found walled away from the entire cavity; adjacent coils of intestines were massed by the adhesions of plastic exudate; appendix was found in fragments in the abscess cavity; stump was amputated and treated with carbolic acid, inverted and held by fine catgut. The cavity was then thoroughly flushed and after drying, the intestines were carefully freed of adhesions and while it was impossible to remove all the adhesions, care was taken to leave no bands that could afterward cause trouble by entrapping coils of intestines and produce ileus. After the adhesions were freed the abdomen was again filled with the solution and was searched for

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abscesses. None being found the wound was closed with as much hot salt solution as could be retained; the high enema was then given. On the second day after operation the temperature rose to 102.6° F., and pulse to 120, but subsided at night and on third day the temperature was 98.6° F., and pulse 86; the stitches were removed at the usual time, and while recovery was slower than in the preceding cases, it was uneventful and complete.

Case IV.—H. W., age twenty-four years, an electric lineman, gave previous history of pain in the right groin for about one year. Nausea and vomiting were present, intense pain, no tumor evident, abdomen rigid, temperature 102.4° F., pulse 128.

Incision was made in the same site as in previous cases; the appendix was found to be gangrenous at tip and completely sloughed away from the cecum, being held in place by the meso-appendix. A pus cavity was ruptured in delivering the appendix; slight adhesions to colon behind were found. As the appendix was lifted up and cut away, it slipped from the grasp of the tissue forceps, striking on the internal lip of the wound at about the center of its extent. The abdomen was then treated as has been described by flushing the cavity while search was made, this was then emptied and again filled and closed retaining the salt solution. The history was much the same as in the preceding cases until the seventh day when there occurred a sudden rise in temperature from normal to 102.4° F., rapid pulse 134, bowels were confined, appetite poor, and there was a feeling of general indisposition. The dressings were removed, and the wound inspected. About the middle of the incision on the internal side a slight oozing of pus was discovered, the suture near it was cut and removed and perhaps an ounce of pus escaped from a mural abscess. This was irrigated with hot saline solution and redressed daily until the tenth day, when all the stitches were removed; at that time the small abscess was completely healed, and the patient was able to be about the street in three weeks from the day of operation.

It may be merely a circumstance, but it is possible that the infection of that wound could have occurred by the amputated appendix striking the edge of the wound in its fall, for the site was identical.

Case V.—R. H., male, age eleven years, temperature 102° F., pulse 120, abdomen rigid and tumor evident.

Incision made over tumor. On entering the abdomen, a large amount of pus escaped. The appendix was found very much enlarged and elongated, with perforation and contained a very large concretion. It was amputated and stump treated as in previous cases The abdomen was then irrigated with the hot solution. During the search another abscess was found in the left iliac fossa; the tip of the tube was carried to the site and thoroughly flushed, this was then wiped away, and the abdomen filled and closed. After the stitches were tied and the wound treated with hydrogen dioxide, it was discovered that a large gauze pad was missing, search about the room failed to reveal it, the abdomen was reopened and the pad found and removed. As the patient was in very bad condition, the stitches were replaced very hurriedly, the high enema was given as usual, the patient put to bed. On the second day the temperature was 101° F., pulse 130, but both subsided at night on the third day. the temperature was normal and the pulse 86. On the eighth day there was a decided chill, followed by a sudden rise in temperature to 102.3° F. The dressings were removed, a large mural abscess was found, which was irrigated and packed with gauze and dressed daily. On the fourteenth day all stitches were removed, on the twenty-first day the wound was completely healed and recovery was complete.

Case VI.—C. C., male, student, age fourteen years. Was seen at first complaining of pain in right groin, nausea and vomiting, temperature 99° F., pulse 120; next evening temperature 100° F., pulse 130.

Operation performed the following day. The appendix was found to be very much elongated and hyperemic, no pus was found, no concretion present. On section of appendix a small amount of pus escaped. The salt solution was used as already described, and the abdomen searched with negative results and was then closed full of the solution and dressed in the regular manner. The temperature for two days was 99° F., and pulse gradually declined from 96 to 84; after the third day the temperature reached normal, pulse 84, where it remained. On the tenth day all stitches were removed and on fourteenth day the patient was dressed; recovery complete.

In each of the above cases the tube of the irrigating bag was rendered sterile by carbolic and bichloride solutions so that it might be carried anywhere in the abdominal cavity and thorough flushing of any septic area could be performed; during this process the gloved hand searched the abdomen for localized areas of infection and it might be well to remember that the region of the liver, the left iliac fossa, the fossa between the rectum and the bladder, and the right iliac fossa are common sites for such abscesses.

The hand makes the solution of sepsis more certain since any and all regions may be palpated, and if this is done systematically and each region of the peritoneal cavity thoroughly explored before moving to another, complete solution may be assured and the safety of the proceeding unquestioned. After the search is complete the fluid is gently pressed out and in doing so it floats the floccular material and by removing this lessens the danger of active

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processes. If localized infection has been found the region is carefully mopped out with a sterile gauze pad; and the tube replaced in the wound and the abdomen closed as full of the fluid as can be retained.

Whenever practicable two drams of the aromatic fluid extract of cascara was given before operation, followed by an ounce of magnesium sulphate in hot solution as soon as consciousness was regained; this procedure lessens the danger of intestinal paresis by stimulating peristalsis, besides increasing absorption. The foot of the bed was elevated about four inches during the first twelve or eighteen hours.

In reviewing these cases it is at once apparent that where the technic was unquestioned the results were most satisfactory; in Case IV. the infection undoubtedly occurred by the amputated appendix striking the edge of the wound in its fall; this infection did not take place in the peritoneal cavity; it was a mural abscess and yielded readily to treatment.

In Case V. I think that infection occurred during the second suturing, as a result of faulty technic, as the sutures were placed very hurriedly, time being an element to be seriously considered.

While these cases may not appeal to many to be of statistical value it must be granted that they prove what can be done without drainage in appendicitis. It seems that the general trend of the times is to do without drainage in all classes of surgery, as far as the removal of pus is concerned, drainage must be used in surgery of certain glands, ducts, and cysts in order to remove the irritating fluids that would interfere with the processes of healing, as in cases of surgery involving the stomach, spleen, pancreas, liver, gall-bladder, and urinary bladder. The maxim given with so much wisdom a few years ago, "When in doubt, drain" is about to be revised to read "When in doubt, do not drain."

NEW METHODS IN CHARITY, WITH BETTER RESULTS AND AT LESS COST.

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WHEN the Hon. James A. Roberts was State Comptroller, in 1896, he wrote some true, pungent and striking things—things that ought to engage the attention of charity workers throughout the State concerning the cost, the *ever-increasing* cost, of the public charities of this great State. In his report for 1896, Mr. Roberts says: "The State now has invested the sum of $19,323,245.42 in the way of buildings and permanent improvements for the defective and dependent classes; classes that must *always* be cared for by the State." It costs the State $5,200,000 annually to care for this immense army. The bulk of this, fully three-quarters of it, goes to care for the 20,000 insane.

The foregoing figures have increased since then; but I use them partly because they are less astounding, and because they are the latest I was able to secure that gave the information I desired in a specific and definite manner.

Pray understand at the outset that I am not opposed to State charities—indeed, far from it; but if better means can be devised at less cost, then I am firmly in favor of such better means at less cost. The question is: Can we care for the State's great army of the defective and dependent classes without lessening the value of the care they now receive, and do it at less cost? I ardently believe it can be done, and I will try, in the briefest manner possible, to tell you how. The means to be adopted come under the following heads: (1) Prevention; (2) Construction; (3) Maintenance; (4) Proper Education.

Prevention, of course, means placing legal restrictions upon the increase of the defective and dependent classes. That the State, or the government under which we live, has the right to do this, there should not be the shadow of a doubt. Just as society has the right to protect itself against any invading foe that threatens the fabric of its social organism, by organizing the equipping armies and by doing what fighting must be done, so it has the same right to make laws, and enforce them, that will cut off or prohibit the ever-increasing army of defective and dependent people that must in time be cared for at the expense of the State. These opinions are self-sufficient to sustain the point.

The next step is to appoint a commission, the aim of which will be to frame laws designed to correct this growing evil. This commission must needs go slowly; it must not make any more mistakes than possible; it must not bring down upon its head the wrath of a whole people by drafting measures too drastic at the outset. It is harder, I know, to go upward and forward than it is to go downward and backward. Let progress be steady, but sure; otherwise defeat of the entire scheme would be invited at the outset. Some States, I believe, have enacted laws to prevent the marriage and intermarriage of epileptics.

The first thing, therefore, is prevention, and the first thing to be done to carry out prevention is to prohibit the marriage and intermarriage of defective, dependent and diseased people, people whose progeny, once created, are bound, in the course of human events, to become public charges. We see bacteriologists throughout the world toiling incessantly to devise means to prohibit the origin and the spread of communicable diseases, and I could give you a long list of men who are spending the better years of their lives in the study of means to prevent one disease only, such as tuberculosis, or yellow fever, or some disease of that kind. Why cannot we, who devote our lives to the care of those mentally-stunted, ineffective, blind, and nothing but dregs of society, do something toward stopping their

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production? Let us check, as well as maintain; prevent, as well as cure. Let us begin at once. Let us appoint a commission to take up this matter and drive it home. Action, intense action, vigorous and everlasting action, is the only thing that is demanded. Set that at work, keep it going, and, rightly going, you are bound in time to gain the point.

Construction is the second point I would bring up. I do not quibble over terms, nor fear to express conditions of the past. I have no hesitancy in saying that nine-tenths of the great public charitable institutions of this State that have been built in the past have been built in the form of great, towering, massive structures, more to satisfy a local pride than to create a suitable home for those for whom they were devised. This is all wrong. For the life of me I cannot understand why a person of feeble mind, or an idiot, or an epileptic should require a home one bit more colossal than that occupied by the ordinary, well-to-do artisan or tiller of the soil. The argument is used that "This building is for the State, and the State builds for keeps." So do others, who are thrifty and wise. The State should not build cheap or shabby structures, but it should build simple, well-constructed homes. In five years' experience at the Craig Colony for Epileptics, I have come to know that suitable homes can be built for a vast majority of the State's wards at a cost not exceeding $400.00 a bed; indeed, under suitable conditions, I am satisfied this might be further decreased. We are housing to-day, at the Craig Colony for Epileptics, 612 epileptics in buildings none of which cost over $450 a bed, and more than one-half of which cost less than $400 a bed. Nor have we built poorly, for we have built well. We have founded our buildings upon a rock, and I am satisfied they will endure for a century. Could you ask for more?

If the State has more than $19,000,000 invested in permanent buildings, and if it could reduce the cost of construction one-third, and if it is expending from $1,000,000 to $1,500,000 a year for new construction, it could save at least $400,000 a year in new construction—which sum will go a long way towards maintaining those persons already under State care—by building simpler homes for these people. It is what they have been accustomed to that we wish to give them; it is what their condition demands, and there is no valid reason why any of them should live in expensive structures, costing anywhere from $1,000 to $3,000 a bed.

Maintenance is the third question to be considered. A great bugaboo, an unnecessary bugaboo, of great proportions and tremendous possibilities, has been raised over *per capita* cost. The result has been competition on the parts of the various superintendents and managers of the great public institutions to bring down their *per capita* cost lower than the *per capita* cost of some other institution. This is all wrong—disastrously so; let the charitable institutions spend what they need for proper and legitimate purposes; let them spend *more money* on the care of the *acutely insane* and *less money* on the *chronic insane*. This applies likewise to all the charities of the State. We have not yet learned to classify properly; or, if we have learned, we do not put our knowledge into practice.

It is time that we begin. Let us separate the *absolutely incurable* and the *hopeless* cases from those that may be cured. Take the insane, for instance. I made a canvass of the 21,000 insane in this State last May and found, according to data given me by several enlightened superintendents, that fully 5,000 of the chronic insane living in the great State hospitals to-day could be colonized in small agricultural buildings on a vast tract of land, where far less money need be spent on their care. These superintendents were heartily in favor of the scheme.

I would advocate the colonizing of 4,000 or 5,000 of the chronic insane in one vast colony; or two, if it is thought best. Build for them cheap, simple, but good and substantial homes. Organize these places just as the State hospitals are organized. Give them a superintendent, a good corps of physicians, nurses and attendants, and stint them in nothing needed for the comfort and welfare of their charges. Make these colonies hives of industry and activity. Instead of the *per capita* cost of this number being $180 or more a year, I am confident it could be brought down in time to $100 a year, or less. Then take from the difference some of the amount saved and build in connection with the great cities, or centers of population, like New York, Albany, Syracuse, Rochester and Buffalo, psychopathic hospitals or reception hospitals—give it any name you choose, so long as you rob it of any designation that would make people feel that it is a place where lunatics are kept. Put into this building the best scientific brains that money can buy; equip it with the best surgical and scientific instruments, and all instruments of study, investigation and precision that man has invented. Provide it with the best possible nurses; in fact, leave nothing undone that will tend to bring about recovery in curable cases.

Do not make these special hospitals too large; make them small; so small that, with a proper hospital corps, each man will retain his identity, not be merely a member. For New York build, say, for 300 patients; for Albany, 100; for Rochester, the same; for Buffalo, 150. Let the acute and curable cases be sent there first for a year, or a year and a half; but let the period be elastic, not fixed. If they do not recover, then transfer them to the present existing great hospitals. Another advantage would accrue from the construction of these buildings in the great centers of population. Physicians, who are graduated by the hundreds in all the great cities where there are medical schools, could use these patients as object lessons, as clinical material. The result would be that the young physician who goes out into practice would have a far better

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knowledge of diseases of the mind than the majority of them have to-day. This would aid vastly in the early treatment of diseases of the mind.

This is how I would treat the matter of maintenance. *Less money* for one-fourth of the insane, and *more money* for a certain per cent. of the acutely insane, with the idea of curing these at the very outset, if possible. I believe that the teaching of pathology should be done in connection with these hospitals for acute cases. I believe all the scientinc work done in connection with the insane should be done in these hospitals, and that as many young physcians as possible should have the advantage of the hospitals. Build in connection with them dormitories in which physicians might live, so that they might be intimately in contact all the time with their difficult and important work.

Education is the next problem. The word *custody* is a most disastrous term applied to the charity wards of the State. It should never have been applied; it is now time to abolish it. Let us say that the charity wards of the State are under treatment, not under custodial care. For many of the insane, for many more of the epileptics—we have 100 of them at the Colony to-day out of 600, for many of the teachable idiots, and for most of the feeble-minded, we need a better system of education; an education that tends to put into the finger-tips of the individual taught a form of education that the individual can use in the acquisition of his daily bread. It is little less than absurd to attempt to force a $5,000 education into a $500 brain; it shows a lack of judgment on the part of those who are doing it, and it results in practically nothing. The State should pay more for good teachers, and an army of teachers should be created over and above that in existence at the present time. To me, it is a pitiable and depressing sight to go through many of the great State institutions and see its charges lined up in long rows down the sumptuously-furnished corridors, with folded hands and all idle; very few, if any, of them at work, and those who are at work are largely improperly employed under unskilled tutorship. The proper education of those of the State charges who should be taught would go far, I am satisfied, toward further reducing the *per capita* cost.

To sum up, then, I would recommend the following:

1. Prevent insanity, epilepsy, imbecility, idiocy and feeble-mindedness, as far as possible, by making it impossible for persons so afflicted to marry.

2. Build less expensive structures in which defective and dependent State charges shall live.

3. Maintain at less cost the cases that are chronic and incurable, and maintain at greater cost, to stimulate recovery, those that probably can be cured.

4. Give those that ought to have it an education that they can use, either in the institution that cares for them, that the cost of their maintenance may be lessened, or in the outer world, when they leave the institution, after the State has done its work well and turned them back into the great business current, as nearly normal men and women as science and art can recreate them.

MEDICAL PROGRESS.

Pendulous Abdomen.—L. PETERS (*Annals of Surgery*, Mch., 1901) states that surgical removal of redundant abdominal fat when it causes symptoms amounting practically to those of a benign neoplasm is justifiable. He reports a case for Dr. H. A. Kelly of a woman who several years ago had fatty breasts taken away aggregating twenty-five pounds in weight. Dr. Kelly recently ablated a large segment of her abdominal fat which weighed nearly seventeen pounds. The result was satisfactory.

Treatment of Lead-Poisoning by Electricity.—J. AURIOL ARMITAGE (*Birmingham Med. Rev.*, Feb., 1901) has obtained thirty-seven cures, either partial or complete, in forty cases of severe chronic lead-poisoning, with paralyses, by the use of electrical baths. The apparatus used consisted of an ordinary large porcelain bathtub carefully insulated, special care being taken to insulate the inflow and outflow pipes. A large carbon at the foot of the tub formed the negative electrode. A small carbon, wrapped in linen rag and movable was used as the positive electrode. The battery he used chiefly was one of 120 large Leclanché cells coupled up in threes, and when freshly charged giving an electromotive force of about 60 volts. As the commencement of treatment from 84 to 120 cells were required to produce the desired effect, but at its close from 24 to 60 cells gave the same result. The feelings of the patient were the guide to the strength of the current. The best results were obtained when the current reddened the skin without causing actual pain. The patients were usually immersed in the bipolar bath for fifteen or twenty minutes. Armitage also used the monopolar bath, the carbon in the tub being the negative pole, while the positive pole was a brass bar laid across the tub outside of the water and grasped by the patient. The treatment was not complicated by the use of drugs, especially potassium iodide. The water, at a temperature of 98° F., covered the patient except his head. In the monopolar bath a greyish deposit was noticed on the brass rod after the bath. This proved to be lead which the writer thinks came off the patient's hands and not out of his system. In addition to the general bath the affected parts of the body received special treatment by being rubbed with the positive electrode. Armitage thinks that the rapid improvement obtained in these lead-poisoning cases was due to the electricity splitting up

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the lead salts in the body, so that the lead formed new combinations, insoluble and stable. He reports in detail a number of cases showing the rapid improvement produced by these electric baths.

Hydro-Salpingitic Torsions.—F. CATHELIN (*Revue de Chirurgie,* Feb. 10, 1901) states the symptomatology of torsions of the pedicle in hydro-salpingitis in the following terms: The prodromata are usually: pain of dull character, recurring in irregular crises, situated in the pelvis or either iliac fossa, radiating into the loins and lower extremities; regular normal undisturbed menstruation; hemorrhage, as a rare accompaniment of the pain-crises; leucorrhea as the sign of uterine congestion; tumor palpable to the patient or evident by its pressure symptoms. Acute torsion shows: pain lightning, horrible, violent and syncopal, in either side or general in the abdomen, excited by some definite exertion as a rule, controlled only by morphine hypodermatically, radiating usually downward and laterally; vomiting but never in the recorded cases, fecal; metrorrhagia, described by Pozzi as "*metrorragies distillantes*" not constant or reliable; intestinal obstruction, by paralysis, simulating the truly mechanical and often suggesting it; constipation as the rule; diarrhea as the exception; localized, usually aseptic peritonitis; feeble rapid pulse; fever exceptionally; facies of shock; usually distension, rarely retraction of the abdomen; exceedingly great sensitiveness to palpation; a tumor, if previously known much augmented, or if not previously unknown manifest to patient and examiner, due to venous obstruction, situate usually in the abdomen or superior strait or rarely in the pelvic cavity, elastic or fluctuating, usually non-adherent. The twisted pedicle is occasionally palpable (de Warnek's sign). The chronic cases in their paroxysms are like the acute and the history of recurrent crises supplies as a rule the diagnosis. Extirpation of the cyst and its pedicle is the treatment.

Varicocele.—W. H. BENNETT (*Brit, Med.* Jour., Mch. 2, 1901) says that fatty degeneration of the testicle is due to the fact that in the usual operations all balance between the arterial and the venous currents is destroyed. In a series of two hundred cases he has had no such accidents while doing the operation so that not only the spermatic veins but also the spermatic artery is obliterated, while the veins and arteries of the vas deferens are left *in situ.* His procedure is to expose the cord with its envelope of fascia just below the external abdominal ring and then separate the vas deferens and its vessels from the whole of the rest of the cord and without denuding the vessels of the envelope of the fascia. Thus the veins and artery of the spermatic group are obliterated and no loss of balance occurs. The nutrition of the testis is carried on by the artery to the vas deferens and twigs from the tunica vaginalis to the testis. Aside from this special feature, all the other steps of the operation are the same as in the common open operation.

Treatment of Drug Habits.—DAVID PAULSON (*Medical Standard,* Mch., 1901) discusses the different methods of cure of these habits, such as the absolute withdrawal of the drug without supporting measures, the substitution method, the tapering off process, and the rapid withdrawal of the drug with physiological supporting measures. The treatment he has found most succesful is the following: The patient must have the attention of trained nurses, as he will need constant attention for the first few days. Not only must the morphine or cocaine be banished, but also liquor and tobacco or any other similar habit must be stopped. The diet should be such as is absorbed readily, and introduce nothing into the system that will tend to excite the already over-irritated nerves. Kumyss, butter-milk, hot malted nuts, and an abundance of fruit and fruit juices are well borne even when the patient is at his worst. Meat, and particularly beef-tea, aggravates the patient's condition. As the patient has usually taken a little more than the average dose before he puts himself under the physician's care, the nurse has little to do during the first twelve hours but watch the patient and see that he does not secure more of the drug. At the first appearance of restlessness, the nurse should take the patient in a wheelchair to the bath-room, and give him a neutral galvanic bath, with the water just at the temperature of the skin with a mild galvanic current passing through it. This is soothing and the patient can remain in it for an hour or more. The bath is followed by gentle massage, then by hot fomentations to the small of the back or wherever the patient feels pain. Then the patient's entire body is enveloped in a sheet wrung as dry as possible from water at a temperature of 80° F., and covered with enough blankets to produce a moderate reaction, but not perspiration. This is a very sedative measure. As soon as the patient begins to become uneasy this should be removed, and the patient wheeled back and forth in a wheel-chair. Then he may receive another neutral bath or a mild galvanic current to the spine. If the heart's action seems to be weakening, cold compresses are applied over the cardiac region, or alternate applications of hot and cold. If the patient is markedly prostrated one or two small doses of morphine may be given. For the diarrhea that comes with the withdrawal of the drug Paulson gives every two hours from the beginning large doses of the bismuth compounds with small doses of coto bark fluid extract. During the first thirty-six to forty-eight hours the patient has only secured snatches of sleep, but the struggle with the morphine is over.

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He must have tonic treatment and a continuation of the neutral baths for some days, until he can get a good night's rest. His general system must be brought up to par by exercises, various hydriatic measures, and gradually increased diet. The patients are invariably cured after a few weeks of this treatment.

Saphenaresection.—P. HERZ (*Deut. Zeitsch. f. Chir.*, Vol. 58, pt. 3 and 4) says that recurrence of the varices after the Trendelenburg saphenaresection are not uncommon. Therefore Habs has introduced a modification which appears to avoid these lapses. According to the arrangement of the collateral circulation beneath the skin one or more short transverse incisions are made joining the longitudinal incision. In this manner many of the collateral veins themselves varicose and productive of relapses are tied and ablated and the return flow determined though the deep intermuscular veins.

Leucemia and Pseudo-Leucemia.—In the *Inter. Med. Mag.*, Mch., 1901), C. H. MINER reports a case of typical leucemia and contrasts it with a case of so-called splenic anemia or pseudo-leucemia. The patient was a Pole, nineteen years of age, who was taken with severe pain in the left side in 1895 and his skin began to grow darker in color. Since then he has had several similar attacks of pain and his spleen has gradually been increasing in size till it extends seven inches below the free border. His skin has continued to grow darker, he has had frequent nosebleeds, with purpuric attacks, edema and hematuria. The blood examination has not varied much, there being about 2,500,000 red blood-cells, 4,000 to 8,000 leucocytes and a hemoglobin of 35 per cent. to 40 per cent. A differential leucocyte count showed: Polynuclears, 75 per cent.; small mononuclears, 16 per cent.; large mononuclears, 4 per cent.; transitionals, 3 per cent.; eosinophiles, 2 per cent. No malarial organisms, no nucleated red blood-cells or myelocytes were found. Osler says that it seems probable that in these cases the enlargement of the spleen and the anemia are both due to the same cause as yet unknown. It is better provisionally to group these cases of splenic enlargement with anemia, and without lymphatic involvement, under the name splenic anemia. The treatment is that of severe anemias. The spleen is sometimes removed in chronic cases with recurring hemorrhages.

Enlargement of the Phalanges.—As causes which may lead to thickening of the end-phalanges of the fingers A. DENNIG (*Münch. med. Woch.*, Mch. 5, 1901) gives the following: (1) Disease which leads to purulent or gangrenous changes such as tuberculosis with cavity formation, bronchiectases, empyema, cystopyelonephritis and dysentery; (2) infectious diseases and chronic intoxications, such as pneumonia, pleurisy, lues and perhaps alcoholism; (3) cardiac disease, especially congential; (4) malignant tumors, and (5) diseases of the nervous system, such as syringomyelia and neuritis. A unique case which cannot be classified in above list was a man in whom pyloric stenosis following ulceration was found. Here the thickening entirely disappeared with the surgical cure of the disease. As a result of the examination of many cases with Röntgen rays the author believes that the hypertrophy is due solely to congestion and hyperplasia of the soft parts about the bone.

Ovarian Secretion.—According to S. W. BANDLER (*Med. Rec.*, Mch. 16, 1901) there is a current in the peritoneal plasma which carries the freed ovum into one or other of the Fallopian tubes. Through the tube the ovum finds its way into the uterus in thirty hours. This ovulation does not cause menstruation, but is due to the same cause, namely a special ovarian secretion. If this secretion is diminished in amount, ovulation may take place without menstruation, or both may fail. The common causes of amenorrhea are atrophy, ill-development, or absence of uterus, chlorosis, lactation, and adiposity. In chlorosis the ovarian secretion is not sufficient to induce menstruation; during lactation the secretion is diverted to the breasts; and in adiposity the lack of secretion is a cause of the fatness, such girls being well-developed with fatty breasts, but with poorly-formed genitalia. An atrophied uterus tends to be accompanied by bodily weakness, both being due to a diverted ovarian secretion, as in prolonged lactation. Many cases of dysmenorrhea occur in girls with hypoplasia of the uterus, but with well-developed ovaries, the ovarian secretion stimulating muscular contraction of the uterus, at the same time congesting its mucosa. Chlorosis, Basedow's disease, the ill-effects of the menopause and castration, osteomalacia, eclampsia, and chorea are also in large measure directly or indirectly due to lack of this secretion. Clinical reports give ovarin as the best remedy for all these conditions; and though it is not probable that ovarin replaces all that the ovaries should furnish, or that it can easily overcome long-existing injuries, yet it must begin a new era in the treatment of diseases of the female.

Laboratory Milk.—A good milk, writes W. P. NORTHRUP (*N. Y. Med. Jour.*, Mch. 16, 1901), is a mixed milk from herds of native breeds. Clean milk means that in which no bacterial toxins have been produced. A few bacteria do no harm, toxins poison. Laboratory milk is cooled below 40° F. within ten minutes of the milking, for at such temperature bacteria cannot grow. The cream is removed by centrifugation, the remaining milk being diluted and added to the cream according to the proportions required. Home-modification has often been a failure, owing to carelessness and ignorance of bacteriological cleanliness, and a mother's over anxiety to have the infant gain

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weight. There are three formulæ necessary to remember: (1) For the newborn, fat 2 per. cent., sugar 5 per cent., proteids 0.75 per cent. (2) Low-average breast-milk, fat 3 per cent., sugar 6 per cent., proteids 1 per cent. (3) High-average breast-milk, fat 4 per cent, sugar 7 per cent., proteids 2 per cent. In from eight months to a year have the milk approximate cow's milk so as to wean the child. All feedings should be milk during the first year, mostly milk during the second year.

THERAPEUTIC HINTS.

Trinitrol.—HUCHARD uses tetranitrate of erythrol or trinitrol as a vasodilator of more lasting effect than amyl nitrite or nitroglycerin. The average dose is 0.01 cg. (gr. ⅙) every four hours.—*La Presse Méd.*, Mch. 6, 1901.

Lavage in Hematemesis.—Blood in the stomach stimulates the digestive act, causing increased peristalsis and the pouring out of gastric juice. This prevents the retraction of the bleeding vessel or clotting and favors a continuation of the hemorrhage. Linossier, therefore, considers lavage an indication in hematemesis. Bondet has obtained good results by treating simple ulcer of the stomach by lavage with a weak solution of ferric chloride.—*La Presse Méd.*, Mch. 6, 1901.

Mixed Feeding of Infants.—It is very common for mothers to give their nurslings a light pap, some milk, meat broths, toast, crackers, etc., without harm, and probably with benefit always after the fifth or sixth month. The indications for the use of artificial food as an auxiliary to human milk are: (1) Deficient quantity of mother's milk. (2) Deficiency in solids in human milk—a little cow's milk and meat juice may be a gratifying addition. (3) Excessive proteids causing colic and indigestion—some dextrinized gruel, condensed milk, or dextrin food, such as Nestlé's given just before nursing has a happy effect. (4) Diarrhea from human milk. Dextrinized gruel as above will answer. (5) Constipation—additional feeding acts well—two or three feedings a day of fat 4 per cent., proteids 1 per cent., sugar 7 per cent., or a few ounces of albumin water (white of one egg in 10 ounces of water) sweetened with cane sugar. Frequently oatmeal gruel relieves constipation, also the malted preparations, and pure butter. (6) The human milk is toxic. There are certain indications for the use of human milk as an aid to artificial feeding. Half to one ounce of human milk may be obtained by the breast-pump or cupping-glass, or by manipulation, and is added to the artificial food. It promotes the digestive and absorbing functions, tones the vascular system, and supplies antitoxic and bactericidal properties to the blood. The indications are: (1) Marasmus—Sometimes a little human milk for a week will start the baby on the right track. (2) Gastro-enteric infection—Clean out the alimentary tract, give large quantities of water, rice water, or barley water for 2 or 3 days; then add human milk to this, gradually increasing, until it can be replaced by cow's milk. (3) Rickets with tetany—Especially those cases with great irritability, laryngospasm, eclampsia, etc. With the use of an antispasmodic, preferably chloral, the addition of human milk to the artificial food greatly enhances the chance of cure. (4) Scurvy—Fruit juices, fresh cow's milk, white of egg, and human milk may be alternated.—*J. Zahorsky, Pediatrics*, Mch. 15, 1901.

Ergotine in Hemorrhage.—Ergot excites contractility in smooth muscle, especially in that of the uterus, but also notably in that of the vessels, especially the arteries. The researches of VAQUEZ show that the first manifestation is an increase of pressure in the venous system, and a lowering of pressure in the arterial system, followed, however, by a slight general increase in vascular tension. It does not affect the coagulability of the blood, therefore is not effective in the bleeding of hemophilia, anemia or jaundice. The hemostatic effect will be most marked in tissues rich in smooth muscle, most of all in uterine hemorrhage, somewhat in bronchial, not much in pulmonary hemorrhage, and very uncertain in epistaxis. In gastro-intestinal hemorrhage as in gastric ulcer, or typhoid fever, contraction is to be avoided for peristalsis may induce perforation, therefore ergot is not indicated, but in hemorrhoids it gives good results, although in general it is contra-indicated in venous hemorrhage. If a wounded artery is small so that clotting may take place during the stage of hypotension ergot is indicated, otherwise the secondary increase in tension will be harmful. ALFRED MARTINET prefers the hypodermic administration using:

℞ Ergotin "Bonjean" .....gm. 2.0 (ʒss)
Glycerini..... } aa gm. 10.0 (ʒiiss)
Aquæ dest. ..... }

Inject 1 to 10 ccm. (♏xv—ʒiiss) in twenty-four hours.

In the continuous hemoptysis of passive congestion from heart disease one can prescribe 5 to 12 of the following each day:

℞ Pulv. digital .....
Ergotin "Bonjean) .aa gm. 0.05 (gr.
.....) $^5/_6$) in pil No.1.

It may be used in liquid form:

℞ Ergotin .....gm. 1.0 (gr. xv)
Syr. aurant. cort } .aa ccm. 60.0 (ʒij)
Aq. dest. ..... }

For hemorrhoids employ a suppository of:

℞ Aq. ext. ergot gm. 0.20-0.80 (gr. iij-xij)
Ol. theobrom. .....gm. 4.0 (ʒj)

—*La Presse Méd.*, Mch. 6, 1901.

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THE MEDICAL NEWS.

A WEEKLY JOURNAL

OF MEDICAL SCIENCE.

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SATURDAY, APRIL 6, 1901.

ADVERTISING IN THE PROFESSION.

WE present in this issue an article by Dr. G. Frank Lydston, comprising a speech delivered at a recent symposium of the Physicians' Club of Chicago, which contains food for reflection. However ethical he may deem himself, the fact remains that the reputable physician must of necessity advertise in one way or another. It is so often difficult to draw the line that it is small wonder that some men lay themselves open to adverse criticism. The question is often one of good taste rather than ethics, and for some inscrutable reason the standard of what is and what is not permissible, varies with the locality. A man located in a country town may emblazon his specialty on his front windows and yet not lose professional caste. This is one of the glaring inconsistencies of our ethics, for the would-be high-toned city specialist cannot do the same and remain one of the elect.

Dr. Lydston is unsparing in his denunciation of the fee-commission business and justly considers it lower in the advertising scale than paid, column-rate "ads." in the daily papers. He very properly holds that the employment of advertising and drumming agents is of the same kidney as the fee-commission business. It would certainly seem that toleration of such methods by a profession which ostracises the advertising quack is absurd. In regard to newspaper notoriety, Dr. Lydston very aptly remarks that it is chiefly condemned by the man who does not get it. If we construe his meaning properly, he believes that there is a legitimate newspaper prominence open to medical men which helps the profession at large by making the doctor in general a more potent factor in the body social. He condemns, however, the exploiting of cases and the inviting of reporters to clinics. Dr. Lydston believes that the contribution of signed quasi-scientific articles to the public press will serve to down quackery by educating the people to a correct appreciation of the merits of scientific medicine. He holds that we must educate first, then try to legislate against quackery. There is much of truth in this view. It would certainly be better to let the public into our confidence first-hand, rather than to permit it to acquire misinformation from garbled and second-hand sources.

It is evident that Dr. Lydston believes that we are in the throes of an impossible attempt to make the ethics of a half a century ago fit accurately present conditions. This is the matter in a nutshell. While many may disagree most emphatically with some of his views, no one will question the frankness and fearlessness of Dr. Lydston's expressions, nor is any one likely to overlook the obvious fact that his views are based upon close observation of professional conditions as they are, not as we would fain believe they are. We believe also, that all will agree that, however unacceptable his views may be, he is actuated by a true spirit of professional altruism. He certainly is not trying to curry favor at court.

THE STATUS OF THE COUNTRY DOCTOR.

THE position of the country doctor in England in the matter of position and influence, as set forth in a paper by Dr. Harry Roberts in the *Lancet* of March 16th, interests us as giving a very broad and hopeful view of the possibilities that lie within the grasp of our medical men to become a strong social power and influence in the small cities and towns in which they practise.

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His experience is upheld by our own that to a large extent the village doctor has nowadays much of the influence formerly wielded by the parson, who used to be the only educated man in the parish.

With the greater culture that has come with the modern education of physicians there have come greater tolerance, greater sympathy and understanding, which are the basis of greater power and influence. By no means would he intimate that this culture should take the place of medical skill, but rather that it should supplant that old-time pomposity which has stimulated many an English wit to caricature.

This pomposity of the past he attributes to a lack of any general knowledge outside of medical and surgical information, as well as to a lack of humor. "Our venerable priggishness," he says, "our owl-like expression, our grave shakings of head, our solemn hat and coat, gave to the gods, and to any one who knows on what shallow pretence these absurdities were based, food for many hearty peals of laughter. Even now we are respectable or nothing. Strip us of our respectability and we cannot as a herd be told from a crowd of deacons—the same smugness and the same lack of humor, the same worship of the sacred Mrs. Grundy, the same fear of overstepping the stupid little laws and customs which prevail among the ignorant middle classes of our country districts."

Though class distinctions are not as sharp in American provincial life as in its English counterpart, it is none the less true that it lies within the physician's power to make country life less narrow and ignorant, more pleasant and cosmopolitan. On account of the intimate and peculiar relations with people of every class, broad-minded and sympathetic physicians may become the true directors of country social life.

On the whole we may conclude with Dr. Roberts that the position of country doctors is better to-day than it has ever been, and that if they play the game skilfully and fairly, and take to heart the satires of the humorists they may still further improve their status, their influence, and consequently their power of modifying the structure of provincial life. This is no despicable destiny.

DIFFERENTIATION BETWEEN HUMAN AND ANIMAL BLOOD.

ONE of the greatest questions in medical jurisprudence is that arising from our inability to determine the source of the blood stains found in criminal cases. There now comes to our aid the result of investigations made by A. Wassermann and A. Schütze in the Institute for Infectious Diseases in Berlin. (*Berliner klinische Wochenschrift,* February 18, 1901).

As a result of the authors' work, they have been able to demonstrate clearly the practicability of differentiating between blood of the human species and that of any other member of the animal kingdom. This also independent of the age of the blood stains. Their investigations are based on the work originally carried out by Bordet and later by Uhlenhuth. The former investigator proved that when an animal was injected subcutaneously with blood derived from some other species, certain products were produced in the blood of the former which had a specific influence on the red blood cells of the other animal when put in contact with them. These products were termed agglutinine and hemolysine for they caused respectively, coagulation and solution of the red corpuscles. Similar results were obtained when injections of milk from one animal were made into another. The authors, however, have pursued their studies further. They demonstrated that when cow's milk was injected subcutaneously into an animal, the resulting products in the blood of this animal would coagulate and precipitate the casein in fresh cow's milk, but not the casein in human milk or in goat's milk. Likewise, goat's milk would cause products which would not coagulate casein in cow's milk and human milk, but only that in fresh goat's milk.

From the result to the investigation of similar reactions with various animals' blood was a natural step. At first, human blood was used entire but as it was found that in order to obtain good reactions the blood needed to be comparatively fresh and the corpuscles intact, other means were imperative. These were the subcutaneous injections of human blood serum (entirely free from corpuscles)—each injection of about 10 c. c.—into the body of a rabbit. Five or six injections were made at intervals of two days. Six days after the last injection the blood was withdrawn from the animal and placed on ice for the separation of the serum. If a physiological sodium chloride solution of human blood or a diluted blood solution (with distilled water) be treated

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by the addition of 0.5 c. c. of this prepared rabbit serum, at the temperature of the room, a rapidly-forming cloudy precipitate is produced which may be made more intense by subjecting it to a temperature of 99° F. in a warming oven. The question arises as to whether this precipitate is specific in character, *i. e.*, whether only human blood will thus react. The authors answered this by treating diluted blood solutions of all common animals; mammals, birds, fishes, altogether twenty-three species, with such prepared serum. In no case did the reaction just described occur. Only in a single instance can it be said to have been doubtful—and this instance in itself is highly interesting—namely, with the blood of a monkey. In this case the precipitate took much longer to form and was not as pronounced as with human blood. It shows the relation of man with ape in still another phrase—the albuminoid bodies in the one have a strong resemblance to those in the other.

All these experiments have thus far been with freshly prepared blood only. In order to demonstrate the practicability of the test with all blood notwithstanding its age, Wassermann and Schütze prepared specimens of all kinds of animal blood and allowed the blood stains to dry and lie about for three months. In this time, the characteristic changes to methemoglobin had occurred and the blood spots had become dirty brown in color. The spots were washed out with salt solution and treated as above being placed in a warming oven at 99° F. to insure better results. Also, the solutions were first carefully filtered in order that a perfectly clear and pure liquid should be used. In about twenty minutes the specimens were examined and the results bore out everything that had been hoped. The human blood solution was clearly in a state of cloudiness while all the others were unchanged. The blood solution of the ape had a faint trace of beginning precipitation. These reactions therefore will serve in any cases of blood examination, where the source of the blood is in doubt.

How important such a decided advance in medico-legal examination is, it is not necessary nor incumbent upon us to state. Suffice it to say that the results are brilliant and the field they open for further research practically limitless.

ECHOES AND NEWS.

NEW YORK.

New York Medico-Surgical Society.—At the annual meeting of the New York Medico-Surgical Society, held at the Hotel Manhattan, Saturday evening, March 16th, the following officers were elected: President, Robert A. Murray, M.D.; Vice-President, A. R. Robinson, M.D.; Member of the Executive Committee, W. Duff Bullard, M.D.; Secretary, J. Arthur Booth, M.D.; Treasurer, William M. Leszynsky, M.D.

Smallpox in New York.—The smallpox epidemic is by no means abated. There were some 44 cases reported last week and at least 40 the week before.

The Anti-Expectoration Crusade.—MagistrateMott is doing his duty nobly in the matter of the "spitting nuisance." He has dealt rigorously with all offenders and his attitude should be warmly commended by the medical profession. The device adopted in some communities of having the conductor present a small card containing the city ordinance to every offender is worthy of imitation.

Civil Service Examinations.—An examination for physician, first and second grades, will be held April 27th, by the State and County Civil Service Examiners. Salaries, $600 per year and maintenance. Eligible list will be made up on the basis of the standings obtained by candidates in the examination for license to practise in the State of New York.

Academy of Medicine.—On Monday evening, April 8th, the Section on Surgery meets. Dr. J. P. Tuttle will read a paper on Cancer of the Rectum with a demonstration of a new method of examination. On Wednesday, April 10th, the section on Otology will meet. Dr. H. L. Swain will show specimens of Tuberculosis of the Ear; Dr. Thos. J. Harris will read a paper on Tinnitus Aurium; some remarks on its causes and treatment, and Dr. Wm. P. Brandagee will read a paper on Tympanic Vertigo, Due to Obstruction in the Eustachian Tube. The following were recommended for election to Resident Fellowship: Drs. F. Bierhoff, James B. Clemens, Alexander Duane, W. Travis Gibb, W. C. Kubin and B. F. Tilton.

Reception to Academy Fellows.—At the Academy of Medicine Friday night, April 5th, Dr. A. Jacobi gave an informal reception to the Fellows of the Academy of Medicine and friends. The occasion was a semi-centennial anniversary of Dr. Jacobi's graduation as a physician and which gave him the opportunity to meet his friends and to thank them for the many courtesies of past years. The affair was informal and very pleasant. Dr. Jacobi read a paper, mainly historical, on the

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development of medicine as shown in the teachings of the early part of the century:

With that perception of underlying causes that marks the man who knows nations as well as individuals, Dr. Jacobi summarized the tendencies of medicine in the first half of the century in Europe, the sober practical method of clinical experiment in England, the revolution of medical science under Bichat in France and the sad influence of the romantic and imaginative tendency of German metaphysics that gave rise to the narrow-minded theories of medicine. Having begun his medical studies in 1847 Dr. Jacobi, possessing that perception that sees the spirit of advance, had the good fortune to watch the intellectual revolution of Germany, and to see the rise of modern scientific medicine, based on the biologic discoveries established by Virchow.

The names of the men who were the leaders of medical thought in Dr. Jacobi's student days are many of them incorporated in the terminalogy of medicine, some were the propounders of totally forgotten theories. There was Nasse, in Bonn, who thoroughly believed in animal magnetism and Ennemoser who explained the relation of Adam to Eve by that alleged force, and how to magnetize the trees in the field and the child in its mother. There was Moritz Ernst Neuman who wrote a general pathology in six big volumes, but who, Dr. Jacobi adds, "did not expect us to know it all, for he was a kind, humane man." Weber the anatomist and Bischoff who intimated to the independent young thinker who was paying his respects to him in a borrowed swallow-tail, that he unless he knew his wholly preposterous and utterly unintelligible text-book by heart he stood small chance of his diploma.

There was Conradi who believed that a "cold drink was the root of all evil," Langenbeck of whom the story is told that in the days before anesthesia when lightning speed was the characteristic of a great operator, he amputated a limb while a British guest was adjusting his spectacles to watch the operation. There were Lotze and Wagner and Kilian, all men who wrote books noted in their day.

Dr. Jacobi commented highly on a remark that Dr. Osler made a year ago, praising him for not having written anything for seven years after his graduation; but for two of those years, while shut from all communication with the outer world, he never saw a square inch of paper or more than a small pencil which he kept concealed in his hair. With his freedom he found a new freedom in medicine and "rejoiced in the fact that medicine was no longer and would never again be, the victim of a single theory, or the work of an individual man, but the results of ever so many thousands laboring in all countries and languages with the same methods for a common aim."

PHILADELPHIA.

Gift to Hahnemann Hospital.—Property adjoining Hahnemann Hospital and valued at $60,000 has been presented to that institution by Mr. and Mrs. George C. Thomas. A nurses' home will eventually be erected on the ground thus donated.

Dr. Wood Improving.—It is stated that Dr. Horatio C. Wood is gradually recovering from the attack of nervous prostration brought on by overwork which has for several months obliged him to relinquish his lectures and private practice.

Dr. Keen Honored by Jefferson.—On Thursday evening, April 4th, an oil painting of Professor W. W. Keen was presented to the Jefferson Medical College. The painting was the joint gift of the students, faculty, and alumni of the College, and the staff of the hospital. The address of presentation was made by Dr. J. Chalmers Da Costa and the painting was accepted for the College by Hon. William Potter, President of the Board of Trustees.

Arthritis Deformans Treated by Ice Applications.—Dr. M. G. Tull recently reported at the County Medical Society a case of arthritis deformans greatly improved by the application of ice to the spinal column. The patient was a female of twenty-one who had marked deformities of the wrists and could scarcely walk with the aid of crutches. A long ice-cap was applied to the spinal column for a period of two hours morning and afternoon, this time afterward being reduced to one hour. Guaiacol carbonate was the chief drug given internally. The patient is now greatly improved, the wrist deformities have disappeared and she can walk two miles. A similar use of ice resulted in marked improvement in a case of inflammatory rheumatism. A notable effect in the latter case was the causing of somnolence where before there was obstinate insomnia.

Fangotheraphy.—Dr. W. C. Hollopeter, Professor of Pedriatrics at the Medico-Chirurgical College, presented a paper on the above subject at a recent meeting of the County Medical Society. Fango is a grayish-brown mud or slime found as a sediment in certain lakes of Italy. It contains iron, magnesium, sulphur, lime, etc., and does not lose its properties by transportation. Its use is indicated in diseases of the muscles, rheumatism, gout, local neuralgias, paralysis, etc. Fango at a temperature of 98° to 120° F. is spread on the affected part to the depth of 3 cm. and the patient enveloped in warm blankets. In from one-half to one hour the fango is removed with tepid water. Several cases of rheumatism, synovitis, etc., were reported in which excellent results followed the use of this material.

Philadelphia Academy of Surgery.—The guest of honor at the meeting of April 1st was Dr. John A. Wyeth of New York who read a paper on Amputation at the Hip-Joint for Sarcoma; Its Tendency to Recurrence. Dr. Wyeth spoke of the extremely malignant character of sarcoma, pronouncing it the most malignant tumor. Statistics of operations with the per-

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centages of recurrences were given. Of 267 hip-joint amputations collected 131 were for sarcoma. Not counting complications, the immediate mortailty was 6 per cent. Of the 117 who survived, satisfactory histories were obtained in 83. In these there were 51 recurrences. The effects of pyogenic infection and the induction of erysipelas were considered. From a study of his own and other cases, Dr. Wyeth concludes that streptococcic infection has an inhibitory effect on the recurrence of sarcoma, and that it should be induced. Infection should be caused at intervals of not more than six months for at least six years.

In Favor of Vaccination.—The Supreme Court, in the suit of Charles J. Field against Martha L. Robinson, principal of the Keystone Grammar School, to compel her to admit his daughter, who had been refused admittance because she was not vaccinated, sustained the decision of the lower court, April 1st, which decided that the teacher was right in excluding the girl. The court said: "We think the court below did not err in the ruling referred to in the assignments. In Duffield vs. Williamsport School districts we held that school directors, in the exercise of a sound discretion, may exclude from the public schools pupils who have not been vaccinated. Whether a resolution excluding from the school pupils who have not been vaccinated is a reasonable one is to be judged in the first instance by the school directors. In the present state of medical knowledge and of the opinion of those having charge of the public health the courts will not say that such a resolution is an abuse of official discretion. It has not been shown to our satisfaction that the act of June 18, 1895, is unconstitutional. For the reasons above stated we dismiss the assignments and sustain the conclusion of the court below." This decision should be contrasted with the decision of Judge Dunne of Chicago, as reported in last week's MEDICAL NEWS.

The Incisions in Operations for Mammary Carcinoma.—Dr. William L. Rodman, of Philadelphia, Pa., read a paper by invitation on this subject, in which he emphasized the fact that the lymph-vessels are far more numerous and complicated than former anatomists had led one to suppose. Instead of one set, as thought by Sappey and others, there are five, two superficial and three deep sets. The arrangement of these superficial and deep lymphatics explains many interesting facts in connection with cancer of the breast. It offers a ready explanation of the clinical fact that carcinomata affecting the inner half or sternal quadrant of the gland are more quickly fatal than those occupying the axillary quadrants on account of the infection of mediastinal glands. The essayist had rarely seen cancer of the inner half of the gland that was not quickly fatal, and therefore loked upon the location of the growth as an important prognostic sign. The age of the patient is also of great importance. Cancer in young patients runs a rapid course. In three cases he had seen under thirty years of age, two died within a year, the third being now under treatment with every prospect of early death. The entire gland is to be sacrificed in every case of malignant disease. He also insisted that the gland should be detached from above downward, instead of from below upward, the reverse of what is usually done. It is inconsistent to remove the gland from below upward, and clear the axilla from above downward. The incision must include all the skin covering the tumor, and should embrace that over the entire gland. More recurrences are due to leaving infected skin behind than to any other cause, due no doubt to the desire to secure primary union without skin-grafting. There is a prejudice against skin-grafting on account of the additional time required and the scars which follow it. He then reviewed the merits of some of the well-established operations. He thought the essential features of the best incision in breast operations should be, first, the wound should be sufficiently large to include all infected skin. Second, it should expose the pectoral muscles from origin to insertion. Third, should uncover axillary vessels and nerves. Fourth, it should have regard for the future usefulness of the arm. Fifth, it should, if possible, admit of primary union without the necessity for skin-grafting. Sixth, the operation should be completed within a reasonable time. While many of the above conditions are fulfilled by Halsted's, Kocher's, Senn's, Warren's and other methods, he was much impressed with the superiority of the Warren operation, and considered it a valuable step in advance, inasmuch as it enables the surgeon to secure primary union even after the removal of very large tumors without the aid af skin-grafting. The device is simple, very easily carried out, and, in the three cases in which it was tried, it was eminently satisfactory.

CHICAGO.

Additional Members of Hospital Staff.—The following appointments of physicians and surgeons to the Assistant Staff of the Cook County Hospital have been announced: Drs. F. Gregory Connell, M. L. Goodkind, Arthur M. Corwin, Carl H. Andersen, B. W. Sippy, Henry F. Lewis, William E. Quine, A. B. Spach, W. A. MacFarlane, Bernard Fantus, John Edwin Rhodes, A. F. Lemke, J. M. Weff, Arthur D. Houghton, George F. Thompson, William R. Livingstone, David J. Doherty, H. J. Brugge, P. J. H. Farrell, U. G. Wandell, and John S. Davis.

Appointment of Dr. Egan.—Dr. James A. Egan, Secretary of the State Board of Health, has been nominated and appointed a member of the State Board of Health to succeed Dr. Peter H. Wessell, of Moline.

Injury of Phrenic Nerve.—At a meeting of

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the Chicago Medical Society, held March 27th, Dr. William E. Schroeder read a paper on this subject. The tumor of the neck was so situated as to make division of the left nerve necessary. The patient made an uninterrupted recovery and suffered no inconvenience from paralysis of left side of diaphragm. In referring to the various authorities it was pointed out that most of the surgeons agreed that injury to this nerve was either fatal or very dangerous, and a contrast was made with physicians who did not seem to consider paralysis, etc., of this nerve or the diaphragm necessarily fatal. In the literature were found twenty-four positive cases and one by Stromeyer of contusion of the phrenic and cervical plexus in which recovery occurred rapidly. The last one was a doubtful case. With the speaker's own case there were eight cases, his being the first case of intentional division. He pointed out that several cases of reported phrenic nerve injuries are not such injuries at all, but have either been assumed to be such or have been mistaken for injuries to the pneumogastric nerve. The following conclusions were drawn: (1) From the clinical and experimental data, it would seem that the importance of the diaphragm as a muscle of respiration has been exaggerated; (2) that as the symptoms commonly described as caused by an irritation of the phrenic were uniformly absent, not only in the operation, but in all of the experimental work as well, it is safe to infer that they may have been due to something other than a simple injury to the phrenic; (3) that while from an anatomical point of view the diaphragm undoubtedly is innervated by branches from the intercostal nerves, this nerve supply is secondary to the phrenic and is insufficient to carry on the action of the diaphragm after a division of the phrenic; (4) that a division of the phrenic nerve, producing partial collapse of the lower lobe of the lung on the affected side and an atrophy of one-half of the diaphragm, might predispose to infection of the lung or be followed by a diaphragmatic hernia; (5) that a division of one phrenic nerve in man, resulting in paralysis of one-nalf of the diaphragm only, is not necessarily fatal.

Purulent Inflammation of the Middle Ear.—Dr. Henry Gradle read a paper with this title, the object of which was to present to the general practitioner the teaching of modern otology regarding the treatment of purulent otitis, as according to the author's experience the method found to be the most efficient has not yet been generally adopted. It is possible for the family physician to prevent the serous discharge from becoming purulent, since this guarantees the most rapid and most favorable course possible. Paracentesis should be done as soon as the diagnosis is definite. Before puncturing, the meatus should be disinfected, preferably by carbolic-acid solutions. It is then packed with sterile gauze and a large pad of good, absorbing material is placed against the auricle. There should be both perfect asepsis and some guarantee against secondary infection by the liberal use of boric acid powder in the gauze. No other treatment leads to such uniform good results. The palliative use of so-called ear drops, which at the best are totally inert, can only be condemned absolutely. Regarding prevention, Gradle mentioned that the family physician should call attention to the existence of adenoids when present as a prolific source of ear disease. He likewise condemned the improper and reckless use of the nasal douche or of any of its substitutes. He thinks the danger to the ear is lessened in cases of suppurative rhinitis (in scarlet fever, measles, etc.) by a freely used indifferent spray to remove the secretion.

GENERAL.

Woman Junior Surgeon.—Miss Marion Ross, who is twenty-seven years old, has been appointed junior surgeon of the Macclesfield Infirmary. She took high honors at Glasgow University.

St. Louis Medical Society of Missouri.—Saturday, March 30, 1901, the following papers were read: Preliminary Report of a Case of Total Extirpation of the Stomach with Presentation of Specimen, by Dr. N. B. Carson; Physiological and Clinical Aspects of Dr. Carson's Case of Gastrectomy, by Dr. Jesse S. Myer.

Editor of Vratch Dead.—Dr. Wenzeslaus Manassein, Professor of Medicine at St. Petersburg and editor of the leading medical journal of Russia, has just died at the age of sixty years.

Oldest Practitioners in Austria.—According to the *British Medical Journal,* Dr. G. Ritter von Hochberger, who recently died at the age of ninety-eight years, was the oldest medical practitioner in Austria. At Carlsbad he had practised for over seventy years, having been there when Goethe was treating at that famous "cure."

Medical Society of the Missouri Valley.—The semi-annual meeting of this society was held in Omaha, March 21, 1901, under the presidency of Dr. V. L. Treynor, of Council Bluffs. After disposing of fifteen interesting papers the members repaired to the banquet. Dr. D. C. Bryant acted as toastmaster, and introduced the following speakers: Preventive Medicine and Politicians, Dr. V. L. Treynor; How We Do It in Missouri, Dr. Chas. Wood Fassett; The Physician Himself, Dr. W. O. Bridges; A Specialist's Opinion on Too Much Talking, Dr. Donald Macrae, Jr. The next (annual) meeting of the Society will be held in St. Joseph, September 19, 1901, after which the members will be tendered a complimentary outing to Eureka Springs, Arkansas.

Appendicitis Club for Maine.—Ohio is not long to have the honor of a specialty in appendicitis clubs. Maine, it is reported, is to organize one.

Plague Situation in San Francisco.—Great

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pressure is being brought to bear in San Francisco to learn about the report of the Commission sent to this city by the United States Treasury Department to investigate the bubonic plague. It is said that the report, which has been forwarded to Washington, establishes the existence of plague in San Francisco, of the type prevalent in epidemics of the disease all over the world up to the climax of those epidemics. At a conference with Governor Gage, and later with Mayor Phelan of San Francisco, just before their departure for Washington, the commissioners said that they had themselves found ten cases of plague. They said the situation was serious, and that to stamp out the disease there should be a depopulation of Chinatown and the establishment of a detention camp, and that in the end it would probably be necessary to wipe out Chinatown entirely. This, it is said, forms the substance of the report made to Washington. Dr. J. H. White, Chief of the Quarantine Division of the Marine Hospital Service, says that there is no danger if proper precautions are taken, but the State authorities refuse to sanction measures suggested by the quarantine officers and the Plague Commission, which the city authorities desire to take. There have been thirty-two verified cases of plague since March 8, 1900, three of them whites, including a white nurse. Several of the cases have been of the pneumonic and most highly contagious type. There are at least five cases not in the verified list of undoubted plague, one of them a white. The latest verified case was on February 24th. There is one case, a negro, now under examination. The statement of the plague situation given out at Washington by the delegation which Governor Gage sent there does not accord with the facts as they are known to persons not tied up to the policy of suppressing the truth for the sake of commercial advantage. Governor Gage denies there has ever been a case of bubonic plague in San Francisco and asserts that the reports are instigated by a conspiracy to rob the State of prestige in order that Northern Pacific interests may secure Oriental and transport trade.

An explicit statement giving the exact conditions regarding bubonic plague in San Francisco has been prepared for the Official Public Health Bulletin. A table is given showing that there were ten deaths from bubonic plague in San Francisco between January 1st and March 15th. Of the cases, those reported in February, six cases and deaths between February 5th and 12th were reported by a special commission appointed by the Secretary of the Treasury to examine into the plague situation in San Francisco. This commission consisted of Prof. Simon Flexner, of the University of Pennsylvania, Chairman; Prof. F. G. Novy, of the University of Michigan, and Prof. L. S. Barker, of the University of Chicago, Recorder. Plague has been reported in San Francisco officially in the public health reports since March 6, 1900, thirty-two cases (all fatal) having been reported and published in previous numbers of the public health reports, and the facts were reported in the annual report to Congress of the Secretary of the Treasury, dated Dec. 4, 1900. On the return of this committee to San Francisco, Surgeon White wired, on March 22d, that they had agreed to raise funds for immediate work as follows: Disinfect all infected houses, provide hospitals for suspects, detention houses and morgue; the general disinfection of Chinatown, with betterment of light and air space. Subsequent telegrams show that the work is being organized. The disease has been confined almost exclusively to the Chinese and an examination of the mortuary records of the latter for the past four years shows that there has been no time during that period when it has increased to such an extent as to, in itself, cause alarm.

Obituary.—Dr. Edward B. Lighthill died suddenly at his home in Newark on Monday afternoon. He was born in Würtemberg, Germany, and was graduated from the medical department of Frederick William Hospital. He formerly practised in Newark and while a resident of that city married Miss Illinois Sherman, a relative of Gen. William T. Sherman.

Medical Director William T. Hord of the Navy died in Washington April 1st. He held the relative rank of Captain on the retired list His naval service covered a period of nearly forty years. He was born in Kentucky and was about seventy years old. He was a volunteer aide on the staff of General Nelson from the battle of Pittsburg Landing to the evacuation of Corinth, Miss., by General Beauregard. On the steam sloop "Pawnee" he participated in all the operations against Charleston under Admirals Dupont and Dahlgren and General Gilmore. He was commissioned Medical Director May 1, 1879, and was retired on account of age in 1893.

Dr. William Fleet Luckett, a prominent physician of Washington, died at his home in that city yesterday at the age of sixty-three years. He was born in Loudoun county, Virginia, was graduated from the University of Louisville in 1860, and served throughout the Civil War as a surgeon in the Confederate Army.

Dr. James H. Rogers of East Hampton, Long Island, died March 12th at the Grand Union Hotel, New York. He had just recovered from a Bottini operation when he was stricken with lobar pneumonia and died on the fourth day. He was born in New York, September 1, 1829; graduated from Williams College in 1852, and from Jefferson Medical College in Philadelphia four years later. He then went abroad where he pursued his medical studies for two years in Paris. He then located in New York until the outbreak of the Civil War when he became a Surgeon to the 7th Regiment of New York Volunteers, and had medical and surgical charge of Fort McHenry for a time. In 1865 he located in Sag Harbor, Long Island, and the next year was mar-

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ried to Miss Georgia E. Starr of that place, who survives him. In 1894 he retired from active practice and located in East Hampton. His father, Nathan Rogers of New York, was one of the foremost miniature portrait painters of his day, and was one of the founders of the Academy of Design. Dr. Rogers was small of stature and frail of constitution; however, his intellectual attainments were of a high order, and he was positive and resolute in his conclusions. He continued active in the recent advances in medicine to the very last. He had been a most painstaking observer, which, with his wide attainments, made him a most valued consultant. Of him, it can be truthfully said, "He was a gentleman of the Old School."

American Academy of Medicine.—The twenty-sixth annual meeting of this society will be held at the Hotel Aberdeen, St. Paul, Minn., on Saturday, June 1, 1901, at 11 A.M. (Executive session); the open session beginning at 12 M. and continuing through Monday, June 3d. The principal features of the meeting will be a symposium on "Institutionalism"; and another on "Reciprocity in Medical Licensure." Series of valuable papers on both topics have been promised, as well as interesting papers on some other subjects. The President's address (Dr. S. D. Risley, of Philadelphia) will be delivered on Saturday evening, June 1st, and the Annual Social Session held on Monday evening, June 3d.

CORRESPONDENCE.

AN ANTAPHRODISIAC OF SOME MERIT.

To the Editor of the MEDICAL NEWS:

DEAR SIR: During the past year I have used the following prescription in my practice in a number of cases. It was prepared to stimulate the hepatic secretion, to improve the condition of the kidneys, and to strengthen the nervous system. Somewhat to my surprise, I noticed in some of my first cases a marked abatement of previously strong sexual proclivities. I continued using it in my practice, and found it to restrain the venereal appetite in both sexes to a marked degree. Judging from reports of the difficulty of solving the social evil problem, there is much need of reliable and energetic antaphrodisiacs. No bad effects following the use of the remedy in my cases have been noted. There is simply a subsidence of desire, while all the physical functions are performed as usual. Believing that there is an excellent opportunity for testing the virtues of the combination on a large scale, it has appeared to me proper to offer it as a small contribution in aid of a worthy cause. Hoping that it may be a seed planted in good soil, and that it may produce a hundred fold, it is here given:

℞ Tinct. cubebs.....3ss
Kola cordial, P. D. & Co.....3i
Fl. Ext. wahoo.....3iii
Syr. simpl. ad.....℥iv

Misc. Sig. One teaspoonful in water fifteen minutes before meals and at bedtime.

JOHN I. LIGGET, M.D.

Ladiesburg, Md., March 7, 1901.

OUR LONDON LETTER.

[From Our Special Correspondent.]

LONDON, March 25, 1901.

DEATH OF QUEEN VICTORIA'S DENTIST—COURT MEDICAL APPOINTMENTS—THE LATE QUEEN'S FAVORITE PHYSICIAN—DECORATIONS FOR DOCTORS—PROFESSIONAL EARNINGS—RECIPROCITY OF MEDICAL PRACTICE BETWEEN GREAT BRITAIN AND ITALY—THE INTERNATIONAL CONGRESS ON TUBERCULOSIS.

QUEEN VICTORIA has been quickly followed to the grave by her dentist Sir Edwin Saunders. He was the first English Knight who ever won his spurs by his prowess with the dental forceps. If he had not the ear of the Queen, he at any rate had her jaw, for he had official charge of the royal teeth for more than half a century. But as he was several years older than his august patient, his post was for a considerable time before her death almost purely honorary. Another dentist whom the Queen consulted in her later years found her a distinctly refractory patient. Her Majesty at first peremptorily declined to follow his advice, and six months afterward sent for him, indicated it to be her will and pleasure to have the line of treatment carried out to which she had previously refused to submit, and found fault with him for not having recommended it.

It is considered in our snobocratic old Europe a high honor to have medical charge of the person of the sovereign, but it is an honor which it needs a certain suppleness of spine to carry with comfort. If it be true that "uneasy lies the head that wears a crown," it may also be said that uneasy stands (for etiquette forbids his sitting) the physician who has the care of that head. He knows that his reputation is at stake, for if things go wrong he will be held accountable, and he will ever after be like Othello, "a fixed figure for the time of scorn to point his slow unmoving finger at." The death of Napoleon the Little has always been attributed by the public to the blundering of his doctors, and in his recent book on Napoleon the Great, Lord Rosebery speaks contemptuously of the banished Emperor's medical attendants, for no better reason apparently than because they failed to cope successfully with cancer of the stomach.

On the other hand, if a physician or surgeon gets the credit of having cured any ailment from a cancer to a cold in the person of roy-

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alty, he tastes how sweet are the uses of advertisement. What is called "Society" here is very like what it was in France in the days of Louis XIV., when Felix, the surgeon who operated on the royal fistula, was overwhelmed by courtiers clamoring for a touch of the knife which had been plunged into the rectum of the Lord's anointed. A doctor who is known to attend royalty wears around his head, in the eyes of the loyal Britons, a halo of light reflected from the central luminary of our social system. *S'il n'est pas la rose, il a vécu près d'elle.* A story used to be told of a Court doctor, who has long since gone to that unprospected country where kings and costers mingle their dust, which illustrates at once the innate flunkeyism of so-called "smart" people in England, and the profitable uses to which this amiable weakness may be put by a shrewd practitioner. He had on the mantelpiece of his consulting room a bottle full of a liquid which he exhibited from time to time to privileged persons as the renal secretion of a beautiful Princess, who has now reached a more exalted position. The faithful paid cult to this interesting relic with as touching a devotion as any pilgrim in the ages of faith ever brought to the holiest shrine; their offerings enriched the priest of science who guarded the sacred spring, and his fame was in the mouths of all who formed part, or wished to be considered as forming part of, the world of fashion.

Of course, all Court physicians are not men of this stamp. Sir William Jenner never stooped to servility and spoke his mind with a bluntness which did not always please ears attuned to tones of deference and flattery. When Lord Beaconsfield, who was a special favorite of the late Queen, was stricken with the illness which proved fatal, Her Majesty asked Jenner to visit the dying statesman. "Dizzy," who like many politicians, at any rate in Europe, had a poor opinion of doctors in general, had given his health into the keeping of a physician who had practised homeopathy and still, rightly or wrongly, lay under suspicion of that heresy. Jenner refused to meet him. The Queen insisted, and Jenner at last said "I am your Majesty's servant and I am bound to obey your command. But I must ask to be forthwith relieved from a position in which I am liable to have such a command laid upon me." The Queen was not accustomed to have her will opposed, but in the face of this firm attitude of her trusted physician, she thought it well to give way. Jenner then offered to visit Lord Beaconsfield on condition that he was not to be expected to acknowledge the unorthodox practitioner. It is related that in order to make it plain that he would have no dealing with heresy, he carefully kept his back turned towards his "separated brother" all the time he was in Lord Beaconsfield's room. Jenner's salary as Physician to the Queen was understood to be $20,000. Of course the appointment was worth much more to him as an advertisement. But the duties were very onerous, and a good many years before his final abandonment of practice he would have been glad to give up his attendance at Court; he did not care to do this, however, partly out of personal regard for the Queen, but mainly because it would have involved his retirement from active professional life, a step which he could not afford to take.

The position of physician in ordinary to the sovereign has generally been held by a man who has gained a leading place in the profession in the arduous path of hospital work and teaching. It is in fact regarded as one of the chief prizes for a profession in which prizes are few. Sir James Clark, however, Queen Victoria's first physician, in whose hands she was for the first twenty years of her reign, was originally a surgeon in the navy and was never a hospital physician. Nevertheless the royal family had unbounded confidence in him, and he fully justified the trust, though in the early days of his connection with the Court he fell into an error of judgment which had very painful consequences. Sir. James Reid, again, who succeeded Jenner has never been a consulting physician in the ordinary sense. For some years he was resident physician with the Court, a position in which he succeeded a Dr. Marshall who held it for twelve years. During all that time Marshall hardly ever saw the Queen, except at a distance and he had but one brief holiday. Short as it was it was interrupted by a summons to Baveno where John Brown, the Queen's personal attendant, had been taken ill with some trivial ailment. Although an eminent physician, the late Dr. Wilson Fox, was in attendance, Brown insisted on having Dr. Marshall sent for, and the wish of so important a personage had to be obeyed. When Marshall resigned his post, there were naturally a great many candidates for the vacancy. To these aspiring youths Jenner, with characteristic plainness of language, explained the precise position which the resident physician had to occupy and the duties which he had to perform. This had the effect of checking their vaulting ambition, and for a time it was difficult to find any one to accept the post. One man was induced to act as a stop-gap and gave such satisfaction that he was urged to stay on. After three months, however, he could stand it no longer, and he has since been heard to say that he would not have taken the permanent post for $50,000 a year. The duties were light enough, being little more than prescribing an occasional nerve sedative for a Maid of Honor or an aperient draught for a "dresser," as the Queen's tiring women are called. The resident physician was never allowed to try his prentice hand on the sacred person of "Her Most Gracious." The life was lonely and

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dull; the unhappy man was cribbed, cabined and confined in the iron cage of etiquette. He could not leave the house till the Queen went out for her daily airing; he could not smoke except at certain times and in certain places, as the royal nose was offended by the fumes of tobacco; he had no one to speak to, except the lower officers of the Royal Household who looked down upon him as a being of commoner clay; he had no convenience for study and little opportunity of practice, with the result that he was in danger of forgetting whatever professional knowledge he had acquired. A position more intolerable to a man of any spirit could hardly be imagined. And against these manifold disadvantages there was not even the consideration of a good salary to be placed. Court appointments are in general poorly paid, as the honor of serving royalty is regarded as in itself a reward for the most self-sacrificing devotion.

Sir James Reid's Court career has been very different from that of his predecessor. He has, indeed, been the spoilt child of fortune. He won the Queen's confidence not only as a physician but as a counsellor in her very extensive and complicated family affairs. With an industry which can only be described as heroic he mastered the family tree of the Guelphs with its innumerable ramifications through an infinite series of relationship and affinity to the *nth* German cousin. Her Majesty valued his advice because he always said just what he thought. But the burden was sometimes almost more than he could bear. One day at Cimiez he begged one of the local physicians to invite him to go out for a drive, as he had had to listen for four hours to some more than ordinarily tangled web of family trouble, and, in accordance with etiquette, had been standing all the time. It is no secret that ladies in waiting sometimes fainted after standing for hours in the presence of royalty, and even strong men broke down in health under the exacting duties of attendance on the person of the Sovereign.

Though Sir James Reid has contributed practically nothing to medical literature, and owing to circumstances has had relatively little experience, such is the divinity that doth hedge a throne that if he chose to put his name on a brass plate in a fashionable quarter, his door would be besieged by patients. It is said, however, that he intends to be content with a quieter, if less lucrative, mode of life; and this decision is probably a wise one.

The King has conferred on Sir Thomas Barlow and Sir Richard Douglas Powell, who, with Sir James Reid, were in attendance on the Queen in her last illness, the Kinghthood of the New Victorian Order. Edward VII. has not yet chosen his own Medical Establishment, but it is perhaps significant that he has within the last few days bestowed the same Order on Sir William Broadbent, his Physician in Ordinary when he was Prince of Wales. Sir William Broadbent has probably the most remunerative practice of any pure physician in England.

It may be mentioned that $50,000 is about the high water mark of professional income for pure physicians here. Some operating surgeons, especially those who have taken the abdomen for their province, earn a good deal more. Their fees are high and they often add to their strictly professional gains an unearned increment derived from "nursing homes" to which they send their patients. The charges at some of these homes are very high and the surgeon who plays the part of tutelary genius is believed to take the lion's share of the profits.

From an official announcement made in the *London Gazette* of March 19th it appears that the Privy Council has administered a snub to the General Medical Council, which is the body having most direct power over the medical profession in this country. As you are aware, the cry of "Italy for the Italians" was raised some time ago by the medical profession in the dominions of King Victor Emmanuel II. This fluttered the dovecotes of the British practitioners who minister to the medical needs of their countrymen in Italy. There has been a good deal of negotiation and wire pulling, and the matter would doubtless have been amicably settled by diplomatic action. But our Medical Council took a *Non possumus* attitude in regard to the recognition of foreign diplomas, and the Italians were equally determined not to recognize the diplomas of any country which refused to recognize theirs. It seemed therefore as if what has hitherto been an "open door" would be slammed in the face of the British physician in search of an Italian market. The difficulty has now been got over by the Order in Council by which full reciprocity of recognition of medical diplomas is granted to Italy.

The organization of the International Congress on Tuberculosis which is to be held in London this summer is proving to be a task of unexpected difficulty. It had been arranged that the Prince of Wales should open it in state. As a French monarch said, however, that the King of France did not remember the wrongs of the Dauphin, our new King does not acknowledge this particular engagement of the Prince of Wales. He sent a curt intimation to that effect to the organizers of the Congress when they humbly ventured to remind him of his promise, and they are now trying to secure one of the *minora sidera* of royalty to grace their meeting.

Physician Stabbed by Hospital Patient.—Dr. Johnson, a physician in the State Hospital for the Insane at Danville, Montour County, was stabbed to death to-night by an insane Italian patient.

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TRANSACTIONS OF FOREIGN SOCIETIES.

German.

SPINAL TUMORS—PYRAMIDAL TRACT FUNCTIONS —RARE RENAL TUMOR—VEGETARIANISM—TUBERCULOUS ANURIA — TWENTIETH ANNIVERSARY OF THE FOUNDING OF THE VEREIN FUER INNERE MEDICIN IN BERLIN—HYPERTROPHY OF THE PROSTATE—BONE SUTURE.

F. KRAUSE, at the Berliner med. Gesellschaft, February 13, 1901, in presenting a case of tumor of the spinal cord cured by operation and in discussing this subject, observed that since the suggestion and introduction of the operative removal of these growths by Horseley thirty-seven instances have been reported of which thirteen were fatal. The later series of cases have been more successful than the earlier, for two reasons; first, very great improvement in the operative technic and, second, earlier and more accurate diagnosis of the neoplasms by the attending physicians. The thirteen fatalities above are such as are undoubtedly attributable to the operation itself. His seventy-six-year-old patient had been weak in the right lower extremity for five years following a traumatism, namely falling down a flight of stone stairs and repeatedly striking her back on the edges of the steps. Just after the accident she was not bedridden but experienced much lumbar pain. The speaker could find no evidences of gross lesion. Eight or ten weeks after the fall she began to have pains, paresthesias and paresis in both lower extremities, at first about the right thigh, later about the left. In May, 1897, girdle-sensation appeared and her state as a whole become worse. By May, 1900, her right lower extremity had become entirely lame. At this time on examination were found on the right side paralysis, girdle-sense and disturbed sensation, normal well-nourished muscles, normal tendon reflexes, normal electrical reaction. On the left side the extremity was entirely anesthetic and decrease in the temperature sense. Muscular sense was bilaterally normal. The picture was therefore that of a Brown-Séquard unilateral paralysis with a few alterations. The diagnosis made was that of tumor of the spinal cord. Its site was assumed to be intradural, because there was no tenderness to pressure or percussion along the vertebral column, and from the symptoms, at the ninth dorsal segment, between the seventh and eight dorsal spines. These were exposed freely through the soft parts and the arches of the seventh and eighth dorsal vertebræ were removed. Beneath them lay the dura very much distended. This was incised and a walnut-sized discrete tumor easily shelled out, leaving a slight depression in the cord. The operation lasted a few minutes. Recovery was prompt. Restitution, though not complete, was certainly far better than the dismal remote effects of the tumor if left *in situ*. Psammoma of benign character was the type of the growth.

M. ROTHMANN in a paper on the functions of the pyramidal tracts said that it had been thought that these had been separated from the others, but in later observations it was proved that this idea is erroneous. Of course, all observations and experiments have to be made upon animals and naturally in the development of the spinal cord in man and in the lower orders is different. The recent experiments of Starlinger, Schiff, the writer and others, have shown that in dogs and apes when these tracts are cut through the resulting paralysis is temporary, the muscles recovering their power in part or whole. The explanation appears to be that the centrifugal impulses pass down the tract of Monakow which crosses as a rule just above the pyramids and in the cord passes down just beside their path. Hence after a while these paths take up the function of those destroyed and more or less use returns to the extremities. Such is also the probable explanation of some of the recoveries after hemorrhage into internal capsule in man.

SCHOENSTADT, at the meeting on February 20th, showed an adenocarcinoma, removed from a child a few months old, who had developed it within one kidney. Such was pronounced very rare.

ALBER discussed the possibility of a rigidly pure vegetarian diet and the relation it bore to perfect health. The vegetarians have long claimed that such is not only possible, but often the case among them. Only two well-proved, reliable cases of a faithful vegetarian diet are reported, however, one by Voit and another by Rumpf, jun. The writer begged to note a third. His patient was an exceedingly graceful, healthy female thirty-six years old, who for several years had eaten only vegetables. She allowed herself a five-day varied menu from which she made choice. This total comprised 120 grams of graham bread, 400 grams of apples, 200 grams of grapes, 460 grams of hazelnuts, 70 grams of dates, 100 grams salads, together about 1400 grams or 3713 grams per kilogram of body-weight. The percentage of nitrogen was 5.4+grams = 34.1 grams of egg albumin, fat in the nuts was 36 grams, carbohydrates, 225 grams. The quantity of urine was very small indeed; fecal matter abundant. With this very small quantity of food and extraordinarily limited amount of nitrogen, the patient still remained in good health and apparently suffered nothing from the scanty nitrogenous supply. If we admit the possibility of such a purely vegetarian diet as generally safe, it does on the whole and general rule appear to be not conformable to good judgment. There are however certain contra-indications and direct indications for it in therapeusis. It will be very serviceable in urticaria, pruritus, furunculosis, erythema ex-

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udativa, multiformis and nervous, some disturbances of gastric indigestion, fatty tendencies, and neurasthenia. It will be inadvisable in many organic gastro-enteric diseases, as is self-evident to any observer.

The Verein für innere Medicin in Berlin celebrated the twentieth anniversary of its foundation on February 20th by a special meeting and on the 21st by a banquet. At the meeting Von Leyden was the recipient of the highest honors in the gift of the society in the office of Honorary President, presented by Gerhardt in a speech reviewing his services during the difficulties of founding the organization. Rothmann read a short list of newly elected honorary members. Von Leyden gave a history of the society since the first meeting and Litten, the Secretary, read an epitome of some of its most important transactions.

PELS-LEUSDEN, at the Gesellschaft der Charité-Aerzte in Berlin, February 7, 1901, gave the history of a case of anuria in a female with a palpable tuberculous tumefaction of the right kidney. After three days of an active pneumonia, and notwithstanding it, the kidney was exposed and a large quantity of urine evacuated from the parenchyma and pelvis of the organ. Through a drainage-tube for several days urine continued to ooze. Finally, the bladder again began to discharge urine and the fistula soon healed. The explanation of this phenomena appears to be that the pelvis of the still secreting left kidney became blocked in some manner, perhaps by a clot, for example.

BRAUN, in a critical review of the various methods of treating prostatic hypertrophies, dwelt at length on procedures employed at König's clinic. This is simply the use of a large common metal catheter as a preventive of urinary retention. As a rule this is found to work well and produce a practical cure of long duration.

MARTENS stated that in the same clinic all recent fractures of the patella are now sutured, so also those of the olecranon process when apposition of the fragments by other means promises to fail. In fractures of the jaw, the patient is first turned over to the dentist and when he fails, the bone suture is tried. Other fractures complicated and uncomplicated usually do well under the old-style methods.

SOCIETY PROCEEDINGS.

HARVARD MEDICAL SOCIETY OF NEW YORK CITY.

Stated Meeting, Held Saturday, February 23, 1901.

The President, Howard Lilienthal, M.D., in the Chair.

Acute Contagious Conjunctivitis.—The paper of the evening was read by Dr. Edwin S. Steese on the common acute contagious conjunctivitis known familiarly as "pinkeye." This disease has taken on special interest of recent years because of its frequent occurrence in epidemic form in our large cities. In 1885 Dr. Weeks of New York began an investigation as to the etiology of the disease. The result of his studies was not announced until 1895. Every year, especially in the spring and fall, there were scattered epidemics of this form of conjunctivitis, which came to be known popularly as pinkeye. First one, then other members of a family were attacked by the disease, and its spread in schools showed that it was contagious. The English troops returning from Egypt brought the disease with them. Koch in his series of investigations in Egypt discovered that Egyptian conjunctivitis was due at times to the gonococcus and at other times to a slender bacillus, morphologically not unlike the micro-organism which causes mouse septicemia. English ophthalmologists at first were rather alarmed as to the importation of the disease into England, but it proved to be comparatively harmless and had none of the characteristics of the chronic conjunctivitis which exists in Egypt so commonly and which is so often obstinate to treatment.

Etiology.—Dr. Weeks of New York without knowing anything of Koch's researches found a bacillus resembling that described by the German observer. After obtaining this bacillus in a pure culture, Weeks inoculated it into the eyes of rabbits but without results. It was then tried on human beings and an acute conjunctivitis always resulted. The bacillus as described by Dr. Weeks is thinner and longer than the tubercle bacillus. When obtained from human secretions the characteristic bacilli are always distinctly separated from one another and their limits are well defined. When grown on culture media, the bacillus always grows in strings and the individual bacilli are not well defined.

Contagiousness of the Disease.—The disease is contagious so long as bacilli are present in the secretion and this is always for some time after the disappearance of the acute symptoms. There remains a stage of convalescence during which the disease is communicable to others. This accounts for the spread of the disease in epidemic form. As a rule the bacilli are found free in the secretions, but at times they occur in the cells of the secretions, in this resembling the gonococcus. Morax in France placed a drop of pure culture in the cul-de-sac of his conjunctiva at a time when absolutely no lesion of the conjunctival membrane was present. Conjunctivitis resulted.

Symptoms.—The first symptom is a congestion of the eyeball. Both sets of ocular blood-vessels, the internal and the external, are congested. At the beginning of the disease, many leucocytes are present in the tissues. At times congestion produces such a redness of the conjunctiva that the disease is sometimes spoken of as acute hemorrhagic conjunctivitis. Lacrima-

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tion usually continues for three or four days, then muco-pus occurs on the conjunctiva and there is some gluing of the lids in the early morning hours, then the characteristic pink color, to which the disease owes its name of pinkeye, develops. At times the secretion is distinctly purulent. This may give rise to mistakes of diagnosis and a suspicion of the presence of gonorrheic ophthalmia may develop. There is slight chemosis, that is, edema between the conjunctiva and sclera; at times some constitutional symptoms, slight fever and headache being observed. Yellow masses are often found at the inner canthus of the eye and are characteristic of the disease. As a rule, the disease takes three weeks before it is entirely well and it may remain contagious even after this period.

Complications.—Certain cases of acute contagious conjunctivitis are complicated by phlyctenula or trachoma. Other complications are always due to secondary infections. The phlyctenula or trachoma may have existed before the conjunctivitis developed and then be somewhat exaggerated by the acute process. Corneal ulcer occurs very rarely in the disease. In 2,000 cases of the disease Weeks has seen corneal ulcer only once. Morax in France has seen six corneal ulcers. Still it is necessary to be on one's guard against the development of ulcer, though it is a rare complication. In a certain number of the cases where corneal ulcers were reported as occurring during the course of pinkeye, the corneal complication was undoubtedly due to the fact that it was not the Koch-Weeks bacillus, but some other micro-organism that was the causative agent in the production of the acute inflammation. The physician must be constantly on his guard not to mistake other and more serious conjunctival inflammations for pinkeye at a time when he knows that pinkeye is prevalent.

Treatment.—As soon as pinkeye is suspected, the patient should be isolated. To relieve the discomfort that occurs cold applications are the most soothing. In delicate children, particularly when cold applications are continued for a long time, care must be taken that the circulation to the cornea does not become so sluggish as to interfere with the nutrition of this important structure. At the slightest appearance of a hazy cornea cold applications should cease. The use of simple cold compresses is better than any antiseptic. The method of applying cold is to place small squares of linen on ice until they become ice cold and then apply them over the eyelids. The pieces of linen may be changed by the patient himself, whenever they become warm, that is every five minutes or so. During the acute stage of the disease, the eyes should be washed every half-hour with a two- to three-percent. solution of boric acid or a very dilute solution of bichloride of mercury. It seems almost impossible to keep the other eye from being affected when one has become diseased. The ordinary eye-shields are apt to do more harm than good, and their use in acute conjunctivitis is not approved by any of the authorities.

Protection and Immunity.—The disease affords no protection against itself and provides no immunity. Within a few weeks after an attack there may be a recurrence. The patient does not, however, seem to reinfect himself. After the acute stage is passed a solution of silver nitrate, one to one and a half per cent., may be used. This often seems to hasten convalescence. Where puffiness of the lids occurs and the case seems prone to run a chronic course, the silver-nitrate treatment is especially useful. The infectious agent apparently does not invade the lacrimal glands. Where the lacrimal glands are invaded, or where the ducts become infected, some secondary microbic agent is at work. This is usually the pneumococcus, but may be the streptococcus. When the latter agent obtains a firm hold serious purulent complications may ensue. Pinkeye in human beings is seldom accompanied by coryza, though ths is a very common symptom of a similar disease in horses. In ordering cold applications for the eye it is important to direct exactly how they should be made. The use of the little squares of linen that have been described, put on ice for five minutes or more and then applied to the eye, is the best method. Where specific directions are not given attendants may apply cold by means of a piece of ice wrapped in a handkerchief or a linen towel. The addition of pressure to the cold is nearly always a source of danger. The circulation is interfered with, the nutrition of ocular tissues is lowered, haziness of the cornea results and before long there is danger of perforation.

Ether Conjunctivitis.—Dr. John B. Walker said in the discussion that in a recent case in one of the hospitals, rather painful conjunctivitis developed as the result of the instillation of some ether into the eye, through carelessness on the part of the anesthetist. Cold applications were made to allay the pain. At the end of thirty-six hours, however, the patient instead of being more comfortable was suffering rather severely. The pain seemed actually to be increased. An ophthalmologist was called in consultation and he recommended the application of heat. He said that it was not an unusual thing to find that in certain patients cold rather increased the discomfort, while heat relieved it. In twelve hours the patient was at ease.

Differential Diagnosis.—Dr. Howard Lilienthal said that during an epidemic of acute contagious conjunctivitis every disease of the eye should not at once be diagnosed as pinkeye. There is danger that a gonorrheal conjunctivitis may be allowed to run its course without proper treatment for several days as the result of such a false diagnosis. The consequences of such an error would almost surely be serious for the patient. Microscopic diagnosis should be made in

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every case, especially if any unusually severe symptoms are manifest. Dr. Lilienthal has seen haziness of the cornea develop as the result of the application of cold. He has had favorable experience with the method of applying folds of lint, but considered it a mistake ever to use more than four folds for an application, for when more are used they are apt to adhere to the lids.

Heat or Cold Applications.—In a recent case where a corneal abrasion resulted from a careless anesthetist's fingernail rather severe conjunctivitis developed. In this, as in Dr. Walker's case, while cold did no good, heat relieved the pain very soon. The cold that is applied is, of course, not enough to kill bacteria, but it may be sufficient to retard their growth and make the inflammation less severe. In a personal experience with pinkeye Dr. Lilienthal made applications of cocaine to the conjunctiva. These applications were continued until the conjunctiva was almost whitened. Not only was the discomfort lessened, but the disease seemed to run a shorter course.

Prophylaxis.—Dr. Henry Coggeshall said that in the first epidemic of the disease which he saw, it spread not only among the patients in the hospital, but also among the doctors, the nurses and the attendants. Only those members of the hospital staff escaped who were trained to keep their fingers out of their eyes. The disease runs in epidemic form usually during dusty seasons of the year. When the disease is known to be epidemic children particularly should be taught to wash their hands very thoroughly and frequently during the day and to rub their eyes as little as possible.

In closing the discussion Dr. Steese said that it is extremely difficult to protect the other eye from infection, though patients should be cautioned to guard it as far as possible. The use of a cover-glass as a rule is not advised. In a case of conjunctivitis where both surfaces of the conjunctiva are inflamed, heat is a better remedy than cold. There are two reasons for the use of cold applications to the eye. The one is the comfort of the patient and for this the choice of heat or cold depends somewhat upon the idiosyncrasy of the patient. The other reason is to limit the growth of bacteria by making the temperature of the ocular tissues unfavorable for them. It is much easier to lower the temperature of the tissues to a point where bacterial growth is retarded than to raise it sufficiently to produce a similar effect. Hence the more frequent use of cold.

Influenza and Typhoid.—Dr. Charles Schramm reported a case and exhibited a set of charts which showed influenza and typhoid running their course side by side in the same patient. The patient was first taken down with characteristic influenza symptoms of the catarrhal type. In a week the symptoms were better, but the pericardial complications developed and the second heart-sound reduplicated. The temperature continued high and the patient became alternately restless and apathetic. The temperature rose to 107° F. and some consolidation was discovered in the upper part of the lower lobe of the right lung. Recurrent chills developed with a temperature of 105° and 106° F. This was evidently the bronchopneumonic phase of influenza sequelæ. Spots of consolidation formed here and there in the lungs, but disappeared in thirty-six hours. During the course of the typhoid fever an alarming hemorrhage came on. The nurse became confused and a heavy ice-bag was applied directly to the skin and allowed to remain for some time. As the result of this an eschar developed in the right inguinal region with loss of the cutaneous tissues. The resultant sore took a long time to heal. After three weeks of characteristic typhoid, lysis of the fever took place and everything was going on well, when a relapse occurred. This secondary typhoid was complicated by hemorrhage and by a septic condition. Notwithstanding this alarming series of accidents the patient is recovering.

Unusual Typhoid Accompaniments.—Dr. Howard Lilienthal said that he had recently operated on a case in which a medical man said that typhoid was beginning. There was a history that pointed to the existence of cholecystitis. He operated and removed an amount of pus from the gall-bladder and a number of stones. The patient recovered without incident, but the typhoid fever ran its course without any interruption. Dr. Lilienthal has seen superficial sloughing occur from the injudicious use of ice-bags. The possibility of this does not seem to occur to most people. Special care is to be taken in this matter in stout patients. The nutrition of the fat tissue of the abdomen is low in resistive vitality and an almost gangrenous condition develops on very slight provocation.

Dr. Walker said that he has seen some cases in which ice-bags used too freely on stout patients have produced sloughing. In one case of a very stout person a slough eight inches in diameter occurred, which proved extremely obstinate to treatment. If used without discretion ice-bags may cause a cutaneous condition much worse than the internal condition for which they are employed.

Dr. Schramm said that the direct application of an ice-bag without the interposition of cloth is usually responsible for the development of cutaneous sloughing. In his case this was undoubtedly the cause. Heavy ice-bags, however, should be avoided, especially in stout people. If there is question of an operation to be performed later on in the course of the case, as for example in appendicitis, then special care must be taken that the resistive vitality of the tissues, through which the operative incision must be made, is not too much lowered by the application of an ice-bag.

Gelatin for Hemorrhage.—Dr. Schramm said that in his case of typhoid fever when the

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hemorrhage seemed serious, the patient was put on an exclusively gelatin diet. Before the occurrence of the hemorrhage there had been some uneasiness, some additional abdominal tenderness and some depression. If the preliminary symptoms of a hemorrhage could be recognized with any reasonable certainty it is possible that the use of gelatin as an exclusive article of diet might either prevent the occurrence of a hemorrhage or lessen its intensity very considerably. Gelatin used in this way as an internal hemostatic has not been tried sufficiently to enable us to say with certainty whether it does good or not. We are so helpless, however, in the presence of severe intestinal hemorrhage that it seems well worth the while to try this means as effectually as possible.

Injections of Gelatin.—Dr. Lilienthal said that injections of gelatin into the circulation seemed undoubtedly to produce greater coagulability of the blood. This had been demonstrated experimentally on animals and also in the treatment of aneurism in human beings. The question of injections of gelatin for hemorrhage from a typhoid ulcer has not as yet been considered. It seems well to remember, however, that we have such a means at our command in these often alarming cases and to make use of it when occasion requires until we learn whether it is efficacious or not.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, Held March 7, 1901.

The Vice-President, Charles L. Dana, M.D., in the Chair.

The scientific business of the evening consisted of a discussion on alcoholism, its etiology, pathology, therapeutics and legal regulation.

Statistics of Alcoholism.—In the absence of Professor Chittenden of Yale University Medical School, the discussion was opened by Dr. Charles L. Dana who gave the details of his personal experience with alcoholic patients. Of those who form the alcoholic habit, or become the victims of the disease of inebriety two-thirds of the patients contract the habit before they are twenty years of age. Practically all of those who become inebriates show marked symptoms of their condition before they are thirty. It a man has been abstinent until thirty, there is very little danger of his contracting the alcoholic habit afterwards unless some special condition develops to modify his will power and alter his constitutional habit.

Neurotic Basis.—The most prominent factor in the production of inebriety is very evidently a family heredity of neurotic character. Neurasthenia is one of the prominent traits of all periodical drunkards. This neurasthenia is sometimes due to the alcoholism. It is always increased by the alcoholism. Under ordinary circumstances a drunkard will live about twenty years after his habit of drinking to excess occasionally has been established. The sot, or chronic inebriate, who is nearly always besotted with alcohol will live fifteen years or less. Death is usually due to some complication and not to the habit itself. Pneumonia, meningitis, or delirium tremens ends the scene. These affections, of course, often carry off a patient long before the term of fifteen or twenty years is past.

Number of Drunks.—An interesting consideration is how many times the human system will stand being drunk. In a recent case under Dr. Dana's care the man confessed that he had been drunk about twice a day for three years. This would make about 2,000 drunks. From his condition it might be judged that he would live for another year and that his limit would be about 3,000. A consideration of a number of other cases seems to show that 3,000 intoxications represent about the maximum number that the human organism will stand.

Types of Intoxicants.—In about one-third of the cases inebriates seem to become intoxicated on spirituous liquor alone. In about one-half the cases a mixture of spirituous and malt liquors—whisky with beer; in about one-sixth of the cases inebriates become intoxicated on beer alone. This last part of the statistics shows that beer is not a safe form of indulgence in liquor, though it is usually considered to be so. Dr. Dana has met with no wine inebriates. The people who drink wine in considerable quantities come from countries where intoxication is practically unknown and they very seldom drink even the stronger wines to excess. An exception must be made, however, in the matter of champagne. There are champagne inebriates. The maximum amount of liquor that a man can take and survive would seem to be about 3,000 gallons of whisky. With this amount the inebriate's climacteric is reached.

Legal Regulation of Inebriates.—In this State there are no effective laws that enable one to deal in a satisfactory way with inebriates. There is no doubt that habitual drunkards need restraint to enable them to keep away from liquor until their physical condition is improved enough to make it possible for them to resist their morbid cravings. The important question that must be considered is how can this legislation which is greatly needed be obtained without any infringement of the rights of the individual.

Pathology of Moderate Drinking.—Dr. Hermann Biggs said it was a very difficult thing to define moderate drinking. Individual tolerance for alcohol varies within very wide limits. Every one who has had hospital experience in New York, knows that a great change has come over the character of the patients suffering from alcoholism who are admitted to the city hospitals.

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Twenty years ago, it was a very common thing to see cirrhosis of the liver. Cirrhotic changes of other kinds were not uncommon. Practically all the drunkards at that time became intoxicated by large quantities of spirituous liquors. Ten to fifteen, sometimes twenty, glasses of strong liquor were taken in the day. In the last fifteen years particularly, this has been changed. It is now the exception to find a history of the exclusive drinking of strong liquor. Not cirrhosis, but certain degenerative effects of the alcohol are now seen. Patients now say that while they take from three to five glasses of whisky in the day, they also drink from three to five pints of beer. Nearly always both forms of liquor are taken, though occasionally patients have taken only malt liquors.

Modification of Symptoms.—As the result of the changes in the habits of patients, the symptoms that come under observation have also changed. As the result of fatty degeneration, the symptoms usually seen come from the heart or the blood vessels.

The kidneys are much oftener affected than used to be the case. The records of the Department of Health form an interesting commentary on the change that has come over the habits of patients with regard to alcohol and the difference in pathological results. With regard to alcoholism, cirrhosis of the liver and hepatitis, only a small increase in the number of deaths have been reported during the last seven years. Needless to say there has been in the meantime a large increase in the population of the city. Not only this but better methods of diagnosis have made liver diseases better known to physicians. There are only three forms of disease in which there was an increase in the death rate in the city in the last twenty years. These three types of disease are the various forms of heart disease, kidney disease and malignant disease. While other forms of disease have decreased not alone in their general average, but also in absolute number these types of disease have increased very markedly. From myocarditis for instance, there are 150 per cent. more deaths than used to occur twenty years ago, although the population of the city has increased only from fifty to sixty per cent. The deaths from kidney disease have almost doubled during this period. Hospital experience is especially striking in this matter. The same phenomenon has been noticed in Berlin. It forms an interesting complement to the observations here in New York.

Alcohol and Nervous Diseases.—Dr. M. Allen Starr said that the subject of nervous diseases and alcoholism is a very large one and only one feature of it seems worthy of discussion just now. In writing about alcoholism not enough stress is laid on the varying effects of the different forms of intoxicating liquor that are used. A great deal is said about the effect of alcohol, but not enough distinction is made as to the wines and beer and the spirituous liquors. It is well known how differently wines of various kinds act on individuals. Sherry, for instance, is distinctly irritating to the temper and is apt to make the guests at a dinner party of a quarrelsome disposition. Port is much more soothing in its effect, it is more agreeable too at dinner parties, causes less discussion and controversy. Champagne is exhilarating. It has a stimulating influence on the flow of thought, it loosens the tongue, it is good for dinners where there is to be after-dinner speaking. Burgundy makes people think more slowly. It does not add to the conviviality of a festive occasion, things are apt to drag towards the end of the dinner where much Burgundy has been taken. Whisky, brandy and gin act very differently on different individuals. One should not speak then of the effects of alcohol, but of the different combinations of alcohol. The special kind of tipple to which a man is most addicted must be taken into account in considering what effect drinking has on his nervous system. It is important therefore always to ask a patient of what special form of spirituous liquor he takes most.

Action on Spinal Cord.—This action of alcoholic liquor on the spinal cord is very different from that produced on the brain. So far as is known no specific alcoholic disease of the cord is produced either pathologically or experimentally. We know alcoholic neuritis very well. Alcoholic brain lesions have been studied, but no specific alcoholic conditions of the cord. It affects both ends of the nervous system, central and peripheral, but not the intermediate conductor tracts. Alcohol affects the most highly organized nerve centers and sets up in them a process of dissolution. It acts just the reverse of evolution on the nervous system—attacking the most highly developed parts first. The lower centers of the brain and cord are not affected until later.

Pathological Studies.—Berkeley of Johns Hopkins has made an excellent set of studies of the pathological processes that are set up in the central nervous system. A characteristic lesion seems to be the destruction of the finer gemmules which exist on the terminal branches of the larger dendrites of the cerebral neurons. Berkeley's preparations show distinctly that alcohol breaks up these dendritic terminal fibers. As the result of the loss of these, cellular coordination is rendered incomplete and so there is a loss of memory and a loss of the connection of ideas. These two symptoms are characteristic of advanced stages of alcoholism clinically and the basis for the symptom is now clear.

Treatment.—It is well agreed now that the best treatment for acute alcoholism is the employment of hypodermics of strychnine and atropine. Delirium tremens is really a state

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of starvation. The best treatment is to feed the individual. In the meantime his natural forces must be kept up by the use of the strong stimulants mentioned. The treatment of the chronic alcoholic or dipsomaniac is a extremely difficult question. It is probable that there is no complete recovery from periodical inebriety of a marked type with entire intermissions in which absolutely no liquor is taken. The basis of the disease is probably a moral obliquity rather than insanity. To make the diagnosis of insanity on a single symptom is always rash.

Legal Regulation.—Revision of the laws is needed that will enable one to control individuals who are given to inebriety. Once the alcoholic habit is formed, restraint is needed so that the patients can not get alcohol until their physical condition has been improved sufficiently to enable them to resist with more show of success. Under the influence of restraint there seems no doubt that one could increase the interval during which there is no drinking and so put off the evil day of the inebriate period and save suffering.

Moral suasion is of more influence than medicine. There is no doubt that neurasthenia is the basis of the alcoholic habit and that hereditary elements enter into it. With better health there is better resistance. The influence of the human will, however, is the best therapeutic agent that can be employed. There is no institution in this country to which a patient can go where alcohol may not easily be obtained. Dr. Starr makes this assertion deliberately. There should be an institution surrounded by the same restraints as for the commitment of the insane, in which an inebriate could be confined for from six months to a year, and in which no alcohol could possibly be obtained.

One may hope thus to save a certain number of inebriates and an effort in this direction is well worth the while.

Statistics Untrustworthy.—Dr. Alexander Lambert said that in the making of statistics it is not well to credit the statements of inebriates. The types of alcoholism that are interesting at Bellevue are, first, the ordinary drinker who goes on an acute drunk on Saturday night or Christmas or Fourth of July. Second, the periodic inebriate. Third, the acute alcoholic suffering from *mania a potu* which is quite different from delirium tremens. It is more manical and more furious, but there is less of terror in it. Patients get up and argue with their delusions, but without the horrors characteristic of ordinary delirium tremens and then there is rapid recovery.

Delirium tremens often develops after the alcohol is stopped suddenly. Patients sometimes come in and say that it is the water they have been drinking since giving up liquor which causes their delirium tremens. This is also the reason why delirium tremens develops so frequently after accidents. Patients confined to the hospitals are unable to obtain whisky in the amounts they are accustomed to and so the nervous explosion of the delirium tremens occurs. More than one-half the cases that come to the alcoholic wards of Bellevue are sent from the fracture wards. The relation of abstinence from liquor to their acute alcoholic condition is evident.

Moral Suasion.—At Bellevue when chronic alcoholics are sober enough to go out they are allowed to leave the hospital. When they are drunk enough to be sent to the hospital once more they are readmitted. Very little serious effort at reformation is made. Last year Dr. Lambert attempted to find out what the threat of the workhouse would accomplish as a restraint against relapses into alcoholism. For six weeks, from the middle of June, to the middle of August every patient known to be a chronic alcoholic was threatened with the workhouse if he should return. During these six weeks 481 cases were admitted to the hospital, 60 of them being repeaters. During the six weeks following only 320 were admitted, twelve of whom were repeaters. During the first six weeks there were admitted into the female alcoholic ward 161 patients. Here no threats were made and the following six weeks there were 181 patients, so that the time of the year had nothing to do with the decrease of admissions in the male ward. As soon as it was learned that the workhouse threat would not be carried out the number of admissions ran up again.

Difficulty of Cure.—Cure is almost hopeless in these cases. Nearly all of the chronic alcoholics who come to Bellevue have gone through inebriate asylums and institutions that claim to have methods of curing inebriety. Patients can not be convinced themselves that they will get over their habit, hence there is no permanent improvement. There is no doubt that there should be some legal regulation by which patients can be held in physical durance until their brain regains its vigor and their nervous system is toned up so as to help them resist temptation. Without some such means as this all ordinary therapeutic methods physical and moral are almost sure to fail.

Heredity.—It is hard to say how much heredity has to do with the inebriety. Alcoholic patients are not consciously untruthful, but they practically never tell the truth. They do not lie, but they have lost their moral sense with regard to the statement of facts. There is no doubt that alcoholism in the parents produces neurotic tendencies in the children. They do not directly inherit their inebriety, but a lack of resistance to external influences. The prognosis of a case of inebriety is hopeless unless there is some possibility of restraint.

Pathological Lesions in Nerve Cells.—Dr. James Ewing said that many changes occur in the nervous system as the result of alcohol-

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ism, but the specific lesion of alcohol may be said to consist in changes in the ganglion cells. There are two forms of alcoholism, the acute and the chronic. After delirium tremens there is a specific condition of the brain visible even to the naked eye. This consists of venous congestion often to an extreme degree with marked edema. Where this condition has prevailed for some time, the nerve cells show characteristic changes. With the Nissl staining method these changes can be seen very clearly. They consist of a most violent disturbance of the economy of the cell, such as is found only in sunstroke, tetanus, and hydrophobia. As a matter of fact it is impossible to differentiate the cells of the brain which have been affected by these four fulminant conditions.

By the Nissl staining method each cell is seen to contain in health a considerable amount of chromatic substance. This is generally conceded now to contain the reserve nutriment for the cell. After death from acute alcoholism the chromophilic bodies are found to be consumed. In some cases no trace of them at all is left, in others only slight traces are found. The distribution of the lesion of the cells shows the general effect of the alcohol on the nervous system. Its influence is not limited to any one locality, but affects every part of the brain. In the motor cortex which presides over the control of the muscles, in the frontal lobe which contain the psychic centers and in other parts of the cortex there is extreme destruction of the chromatic bodies. The cells of the spinal cord do not show these degenerative changes. This confirms the observation made clinically and advanced by Dr. Starr this evening that there is no organic disease of the cord referable to alcoholism. Animals can not be successfully brought to a condition of alcoholism which will reproduce the changes that occur in human beings. This confirms the conclusion that alcohol affects only the higher centers.

General Pathology.—Alcohol is a more frequent etiological factor in the production of visceral pathological lesions than is tuberculosis or syphilis. The whole of general pathology is stamped with the effects of chronic alcoholism. The brain cells are very characteristically affected, but every cell in the body suffers from the effects of the alcoholisms.

Legal Regulation.—Dr. Joseph Collins said that the most important thing needed for the cure of alcoholism is prolonged abstinence from alcoholic liquor, which puts the nervous systems of inebriates in a condition to help them resist the constitutional craving for spirits. There must be a law to restrain alcoholics. A number of countries have such laws. The experience of New Zealand, of certain of the provinces of Australia and of Switzerland show that such laws are practicable. South Australia particularly has an effective set of legal regulations for inebriety—every one who is convicted of being drunk three times within six months being liable to commitment to an inebriate asylum. Switzerland is the only country in Europe that has such a regulation, but her experience is encouraging. As the result of the recommendations of recent Congresses France will soon have laws and institutions for inebriates.

United States Laws.—In the United States laws in this matter have been desultory and spasmodic. In New York for instance there is an inebriates' home to which alcoholics can be committed and which receives 12½ per cent. of the money obtained from licenses, yet its power for good is dying out. There is at Inwood St. Saviour's Home conducted by the Episcopal Sisters to which women may be committed who are addicted to the alcoholic or any of the drug habits. In other States there are corresponding institutions, but somehow their efficacy is not what it could and should be.

Alcohol and Tuberculosis.—Dr. Knopf said that alcohol is one of the greatest etiological factors in the development of tuberculosis. Twenty-five per cent. of the scrofulous children are born of tuberculous parents. Alcohol is also frequently phthisiogenetic in the adult. Doctors frequently mislead patients by recommending the use of alcohol freely and making them think that it is a specific for their disease. Not infrequently Dr. Knopf has been told by patients that they thought it the best thing for them. Alcohol is undoubtedly useful in phthisis, but it may easily disturb the nutrition and if used for its antipyretic influence will usually make the patients alcoholic habitues. If there were better tenement houses, if men could go home to agreeable living apartments, if their wives were good cooks, there would be less alcoholism and much less tuberculosis. Without an intelligent wife and a cheerful home alcoholism will surely increase.

Harmfulness of Moderate Drinking.—Dr. George Peabody said that it is wonderful what an amount of ignorance exists with regard to the effect of alcohol on the system. This is true even for the well informed. How often does not the doctor hear it said that a patient has surely not injured himself by taking alcohol because he has never gotten drunk. Drunkenness is only a social incident. Alcohol may work its worst harm on the system without producing drunkenness. It must be remembered that the distilling and the brewing companies represent enormous investments the main purpose of which is to keep up the sale of intoxicating liquor. These immense financial interests are practically banded together to debauch the community. These make legislation difficult. Besides these there are other favoring factors sometimes unthought of. Many of the so-called chronic remedies and certain of the stimulant

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bitters, are really only diluted alcohol. Some years ago the Massachusetts Board of Health analyzed twenty to thirty samples of bitters that were advertised as containing no alcohol. Some of them contained as high as 40 per cent. of alcohol. This is, they were practically whisky. They were advertised as soothing inducements to temperance.

Wine-Bibbing.—When the patients say that they take wine it must not at once be concluded that they take a mild form of liquor. Sherry for instance is a popular drink, but it is not wine in any true sense of the word. To the natural wine is always added spirits in varying proportions, so that some kinds are as strong as whisky. Women will often take a glass of sherry who would not think of drinking whisky.

Dr. R. H. M. Sells said that "Vinegar Bitters," so much advertised as a temperance drink, contained almost as much alcohol as whisky. The sum of $1,200,000,000 was spent last year on alcohol; $6,000,000 on missionaries—Keeley himself died of alcoholism so that so-called cures are mainly "fakes."

THE MEDICAL ASSOCIATION OF THE GREATER CITY OF NEW YORK.

Stated Meeting, Held March 11, 1901.

The President, Robert F. Weir, M.D., in the Chair.

Diet in Treatment of Heart Affections.—Dr. Henry Illoway read a paper on this subject. He said that while all the treatises on cardiac diseases referred to the importance of such a regimen, the information given was of a general character, and the necessity of correct dietary rules was not appreciated. That the stomach has a marked influence upon the heart had long been recognized, angina pectoris and even cardiac dilatation have been known to result from gastric disturbance.

Details of three cases were given. The first was that of a woman of fifty-seven years suffering from dilatation, with frequent paroxysms, attended by a sense of agonizing fear. The trouble was primarily due to nervous shock. Her weight, originally 175 pounds, became reduced to 100, notwithstanding that she was a very hearty eater and indulged in all sorts of dietary excesses, even between her meals. She was treated by the best physicians, and finally her case was given up as hopeless. When first seen by Dr. Illoway she spent all her time between her bed and her lounge, with brief intervals in a rocking-chair. He explained to her that she was in no real danger, and encouraged her to move about and get the air. A strictly regulated diet was enforced, and she was treated with tonics (particularly nux vomica and arsenic), and with systematic massage. The paroxysms entirely disappeared, and she is now in excellent health.

The second case was that of a clerk suffering from aortic stenosis and mitral regurgitation, who was incapacitated for work. Diarrhea was a prominent symptom. All meats, all fruits, and all vegetables were withdrawn. The diet prescribed consisted of eggs, milk, crackers, and animal broths, in limited quantities, with a little old sherry at bedtime. Medical treatment was given *pro re nata*, and consisted principally of strophanthus and iron. Under this course he rapidly improved, so that he was enabled to resume his work.

The third case was that of a pharmacist of twenty-six years, with tricuspid regurgitation. He suffered greatly from pain in the chest, with shortness of breath, and had the appearance of a tuberculous person. He had, in fact, been treated for this disease, although there was no cough. He was advised to give up the cares of business, to go to the country, not to lift or carry, and to avoid stairs. The diet prescribed was almost the counterpart of that of the preceding case, and he improved very rapidly. After a time he felt so well that he concluded to return to the city. He opened a new store and was soon engrossed with the cares of a large business, while he indulged his appetite freely. The heart could not stand this strain, and he broke down again. The damage sustained was now irretrievable, and, while he improved for a time under treatment, he finally died with symptoms of cerebral congestion.

Gastro-Intestinal Affections and the Heart.—Dr. L. F. Bishop said that many cases of gastric and hepatic disturbance are of cardiac origin. He cited a case of myocarditis in which the patient, a young woman, was treated for malaria, gastro-enteritis, etc., without success. She was then sent to St. Luke's Hospital, where her stomach was washed out and she was given calomel, with anodynes to relieve her pain. She finally left in disgust. When she came under Dr. Bishop's care he put her to bed and treated her principally with digitalis and a little hydrochloric acid. The venous engorgement of the stomach and liver were promptly relieved when the heart's functions were restored, and she was soon going about in comparatively good health. As a rule affections of the stomach are secondary to those of the heart, rather than the reverse. Notwithstanding all that has been said on the subject of diet it is not possible to lay down fixed rules, and each individual instance must be considered by itself. A judiciously mixed diet, at rather frequent intervals, was generally the most satisfactory. He certainly saw a great many more cases of disease of the heart's muscle now than formerly. There is great risk from any overloading of the stomach or attacks of indigestion, and therefore indiscretions in diet are particularly dangerous for those suffering from cardiac disease.

Diet Not More Paramount in Cardiac Than

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in Other Diseases.—Dr. F. W. Jackson disagreed with Dr. Illoway's conclusions, and thought that mistakes in diet were made as well as in medication. In some instances hygiene and diet are of the greatest possible importance, while in others they are of no consequence. Of course, if certain forms of food give rise to disturbance, it is essential to regulate the diet.

Definite Dietary Rules of Great Advantage.—Dr. Alexander Lambert thought the profession owed a debt of gratitude to Dr. Illoway for giving definite rules, as the books were certainly altogether too vague on this subject. People usually eat too much. Eventually the arteries or the myocardium tell the story, and it becomes necessary to seek medical advice. It is very difficult, however, to fight against the habits of a life-time. Especially is this true for the gouty subjects. In case of angina pectoris the patient should take his meals dry, and four hours should be allowed for digestion, with an additional hour for the stomach to rest. At the end of four hours after a meal water or tea may be taken, and the liquid should be hot rather than cold. Food between meals should be absolutely prohibited. The principal meal should always be in the middle of the day. More than five ounces of fluid should never be taken at any one time. Alcohol is not required, but if it is insisted upon, one-half ounce of whiskey in the twenty-four hours is ample. The cutting off of all tobacco is absolutely essential.

Diet First in Importance.—Dr. W. H. Porter said he did not think diet should be divorced from medication. With the present knowledge the subject of dietetics is not as difficult or intricate as it formerly was. The system requires about equal proportions of starch, proteid matter, and fat, and the problem is how to get the proper amount of each appropriated with the least taxation. There should therefore be a well-regulated mixed diet, but one in which animal food predominates. The following list is suggested. Two eggs, seven ounces of wheat bread, with butter, and from half a pound to a pound of meat. The stomach is not the only organ of digestion. As a matter of fact only one-ninth part of the digestion is performed in this organ, while the other eight-ninths belong to the intestines. A careful watch of the urine will always tell how the patient is doing. If the amount of urea is low and of the uric acid large, the condition is unsatisfactory, while the presence of indican indicates indigestion. Dr. Porter had never found it necessary to put this class of patients on an absolutely liquid diet.

Anesthetization as a Specialty.—The second paper of the evening was by Dr. S. Ormond Goldan. It was to be remembered that as the result of an operation the patient was liable to suffer not only from surgical shock, but also from anesthetic shock. Hence it was often of vital importance that the latter should be minimized to the greatest possible degree. In order to accomplish this the anesthetic given should be selected with the greatest care and administered with the highest skill, and this could best be done by one who had devoted special attention to the subject. Safety was of the first importance, and it was a well-known fact that fatalities had sometimes resulted from operations of the most trifling character. The specialist was always prepared for any emergency that might occur. In order that anesthesia could be secured with the greatest success, as well as safety, it was desirable that a careful examination should be made of the patient a considerable time preceding the operation and again immediately before the latter.

MEDICAL SOCIETY OF RUSH COLLEGE.

Stated Meeting, Held March 4, 1901.

Acute Ulcerative Endocarditis.—Dr. Theodore Tieken demonstrated this specimen showing a large perforation in the posterior segment of the aortic valve, and almost complete destruction of the anterior cusp by the ulcerative process. The valves were covered with large vegetations, many of which were calcified. The mitral valves were likewise studded with vegetations, which extended down the chordæ tendinæ as far as the apex of the papillary muscles. In addition to the ulcerative process on the aortic valves, an area of ulceration was found at the attachments of the bases of the semilunar valves, which extended through the walls of the aorta, into the peri-aortic space. The heart was greatly hypertrophied and showed some interstitial fibroid changes. In the same case were found an annular pancreas and a sacculation of the duodenum, caused by the constriction of the intestinal lumen by a band of glandular substances, springing from the head of the pancreas in such a manner as to entirely encircle the lower part of the duodenum (descending portion) forming a true "pancreas annulare." The pancreas was normal in size and consistency, and cut with about normal resistance. The head measured 4 cm. in its vertical and 3½ cm. in its transverse diameter. The annular portion measured 2¾ cm. at its narrowest portion and was 1 cm. in thickness. The ducts were in every way normal, and no abnormality was noticed in its vascular supply. In a hurried review of the literature he was able to find only four other cases reported to date. Although the patient had been under observation for nearly a year, no symptoms referring to the gastro-intestinal tract were ever manifested during life.

Obstruction of Popliteal Artery.—Dr. James B. Herrick presented a specimen showing obstruction at the bifurcation of the pop-

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liteal artery produced by an embolus from the heart, the seat of chronic valvular and myocardial disease. He also showed a specimen of a suprarenal tumor where the tumor mass had invaded the inferior vena cava. This finding, which had been suspected during life, explained the early occurrence of an edema of the lower extremities and had been one determining factor in deciding against operation for the removal of the kidney.

Lymphatic Leucemia.—Dr. Herrick also showed specimens of blood from six cases of lymphatic leucemia. He referred to the unknown etiology of the disease, to its clinical separation into acute and chronic varieties, to the resemblance of the former to an acute infection and of the latter to Hodgkin's disease, and also dwelt upon the variations in the blood picture as shown in his six cases. The statement so frequently made that in lymphatic leucemia nucleated red corpuscles are very rare, was disproven in four of the six cases, three acute and one chronic, and specimens were exhibited showing numerous nucleated red blood corpuscles. He spoke also of the great variety in the picture presented by the blood according as the larger or smaller mononuclear forms prevailed in a given case. In one case, a rapidly acute one, there had been about two per cent. of myelocytes. Another interesting combination he had seen was that of a patient with carcinoma of the neck and jaw with diffuse hyperplastic enlargement of the lymph glands and with the typical findings of a lymphatic leucemia, the blood counts never showing less than 100,000 leucocytes.

Aneurismal Extension.—Dr. L. Hektoen presented several specimens illustrating interparietal and intraparietal extension into the heart of aneurism of the beginning of the aorta, and of dissecting aneurism of the heart. He described the spatium periaorticum cordis of Vestberg. The spatium periaorticum cordis is situated at the root of the aorta and is covered by the reflection of the epicardium as it passes over the aorta behind the auricles and forms the floor of the sinus transversus pericardii. It is in this space that interparietal dissecting aneurisms of the heart most frequently are found by rupture or ulceration of its internal wall, the aorta. The specimens demonstrated illustrated the formation of dissecting aneurism in this space as a consequence of ulcerative endocarditis of the aortic valves, and in consequence of the rupture into the space of small aneurisms in the beginning of the aorta developing primarily upon the basis of a syphilitic aortitis. He also demonstrated a specimen of a large interparietal aneurism in the right ventricle originating in the sinus Valsalva of the aorta, and also an aneurism originating in the left ventricle by two small openings and forming a large cavity upon the lateral and posterior aspects of the left ventricle. The postmortem in this case was made by Dr. LeCount and the question as to the dissecting character of this aneurism was discussed, the conclusion reached being that the aneurism most likely originated in a suppurative process in the myocardium and probably reached its present large extent in consequence of more or less dissection of the walls of the left ventricle.

Portal Obstruction.—D. H. G. Wells reported two cases illustrating the relief of portal obstruction in hepatic cirrhosis by plastic peritonitis. In one the condition was found at autopsy, there having been no evidence of obstruction during life; the numerous adhesions of a chronic fibrous peritonitis were found largely replaced by thin-walled vessels, full of venous blood, up to the size of a crow's quill. The portal obstruction was due to an obstructive biliary cirrhosis from impaction of a calculus in the common bile-duct. The other case was that of a man with excessive ascites of about twenty months' duration, requiring frequent tapping, and due to alcoholic atrophic cirrhosis. A large umbilical hernia, resulting from the ascites, became strangulated and was reduced by operation. No attempt was made to establish a plastic peritonitis and there was but little intra-abdominal manipulation, yet the ascites never recurred up to the time of the patient's death, eleven months later, from carcinoma of the pharynx.

CHICAGO PATHOLOGICAL SOCIETY.

Stated Meeting, Held March 11, 1901.

President, L. Hektoen, M.D., in the Chair.

Primitive Splenomegaly.—Dr. Maximilian Herzog read this paper, based upon a study of the literature of the subject and on two cases in which Dr. M. L. Harris had performed splenectomy (See MEDICAL NEWS, p. 471).

In the discussion Dr. W. A. Evans referred to a patient of Dr. Ferguson in whom there occurred petechial spots in the skin and the spleen became smaller before death. He spoke of a case reported by Dr. Dalton before the London Clinical Society, which was clinically one of splenic anemia, but at autopsy the enlargement of the spleen was discovered to depend upon passive congestion, due to constriction by an anomalous colon.

Dr. Leo Loeb declined to accept the theory of an enzyme which destroys the red blood-cells in the spleen. Dr. E. H. Ochsner referred to a case which clinically was splenic anemia, and which improved for a time after the spleen was removed, but subsequently died. A few small peritracheal glands, which were tuberculous, were found at autopsy. A possible infection in such cases must always be considered. Dr. B. W. Sippy spoke of the similarity of these cases to the ordinary lymphatic pseudoleucemia as regards blood

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changes, general asthenia, etc., a similar enlargement of the syleen also being observed. In many cases of splenic anemia there is enlargement of the lymph glands, although it may be slight. In all cases the bone marrow has been converted into a fetal condition, like that found in many cases of pseudoleucemia lymphatica. He objected to the term splenic anemia, and considers the one splenic pseudoleucemia to be the proper one. He believes the primary cause cannot be positively located in the enlargement of the spleen. In the case described by himself, the fibrous changes were much more marked than in Dr. Herzog's. This he thinks may depend upon the longer duration of the disease.

Dr. Herzog in closing said that he did not claim that there was proliferation of the endothelium alone, but that the increase in the endothelium was enormous, so much so that the condition had been mistaken for an endothelioma. Dalton's case had not been considered as it was too indefinite. One reason for separating these cases from lymphatic pseudoleucemia is because they are curable by operation.

Dr. Theo. Tieken exhibited a specimen of pancreas annulare, with resulting constriction of the duodenum so that a large fusiform sacculation of the latter had formed.

Dr. H. M. Ricketts presented specimens of experimental general blastomycosis in the dog produced by the intravenous inoculation of an organism obtained from a case of blastomycosis of the human skin.

BOOK REVIEWS.

INTRODUCTION TO THE STUDY OF MEDICINE. By G. H. ROGER, M.D. Authorized Translation by M. S. GABRIEL, M.D. D. Appleton & Co., New York.

THIS book is intended to give medical students at the beginning of their study not only some elementary technical knowledge of disease, but also some conception of what disease is, how it originates, what the reaction of the organism is, and how a physician studies, places, and treats any particular disease.

The style is rather diffuse, especially so for a book which in five hundred and thirty-six pages aims to give a superficial familiarity with all medicine. Some chapters go into minutiæ which can hardly be of service to those for whom the book is intended. For example, there is a long account of the classification, the names, and the cultural characteristics of moulds and bacteria, which is, however, not full enough for practical use. Certain chapters giving a detailed description of the effects of some external causes of disease, such as cold, heat, and electricity, may be found entertaining and instructive for the experienced graduate.

Prof. Roger tends to depreciate the practical use of the clinical laboratory and to assert the sufficiency of simple bedside observation.

DISEASES OF THE ANUS AND RECTUM. By D. H. GOODSALL, F.R.C.S., and W. ERNEST MILES, F. R. C. S. Part I. Longmans, Green & Co., London and New York, 1900.

THIS is the first of two volumes on this subject and contains a very good resumé of English opinion with regard to the diseases of the lower end of the digestive tract. The question of ano-rectal fistula is treated with special completeness. The illustrations of this subject are numerous, but many of them fail to convey any additional information to what is contained in the text. The reproduction of photographs of the anal region is not apt to prove good material for illuminative illustration. The authors are reasonably conservative with regard to operations for fistulæ, yet we think the modern trend of thought with regard to the opening of tuberculous abscesses is sufficient to justify even greater conservatism than the authors might think proper. Most ischio-rectal collections of pus are what may be called cold abscesses and these we have learned Nature can take care of as a rule almost better than the surgeon. The chapter on hemorrhoids is the longest in the book and the methods of physical examination and the possible medical treatment of the condition are well written up.

PHYSIOLOGICAL OPTICS, DIOPTICS OF THE EYE, FUNCTIONS OF THE RETINA, OCULAR MOVEMENTS AND BINOCULAR VISION. By Dr. M. TSCHERNING, Adjunct-Director of the Laboratory of Ophthalmology at the Sorbonne, Paris. Authorized Translation by CARL WEILAND, M.D. The Keystone, Philadelphia.

AN essential feature of a complete work of this kind is the opening chapter on *optic principles;* but the interest and helpfulness of the book are not found here. It is to be found in the subsequent chapters, especially those dealing with anomalies of refraction, spherical aberration, entopic phenomena, accommodation, color sense, and ocular movements. Especially valuable is the chapter on accommodation in which a new putting of things and new ilustrations make the subject matter very helpful to the understanding. Indeed, there is none of the book superfluous. There is special need for it, because ordinary treatises cannot in the nature of things go into full consideration of each of these subjects. Here they receive a scientific and full treatment up to date which makes the book an authority for students and specialists. None could more suitably give us the translation of this valuable work than could the distinguished gentleman whose own name is associated with much work of the same character.

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ORIGINAL ARTICLES.

THE IMMEDIATE AND REMOTE RESULTS IN ONE HUNDRED CONSERVATIVE OPERATIONS ON THE OVARIES AND TUBES; WITH BRIEF REPORTS OF FOUR CASES.[1]

BY W. L. BURRAGE, M.D.,
OF BOSTON.

YOUR chairman has been kind enough to invite me to give you the results of my experience in operating on the uterine appendages with a view to the preservation of their function. As I told him at the time he extended the invitation, I am always glad of an excuse for coming to New York. We in Boston regard the metropolis as a Mecca to which we must periodically journey in search not only of entertainment and amusement, but of all that is new and progressive in medicine, and I hope to profit largely by the discussion of the subject of this evening.

Last May I read a statistical paper on the "Remote Results of Conservative Operations on the Ovaries and Tubes" before the American Gynecological Society. This paper embodied a tabulated report of 85 cases which had been under observation a year or more since their operations, as it seemed to me that at least a year after operation was necessary in order to arrive at just conclusions as to end results.

Classing as conservative operations all those in which, an operation on the appendages being performed, not including cases of hysterectomy or suspension of the ovaries, one ovary, a portion of one ovary, or one tube or a portion of one tube was left behind, my cases up to March 1, 1900, numbered 137. Between March 1st and February 1st, I have had 19 additional cases to add to my list making a total of 156. Of these, 100 have now been under observation for at least a year after their operations.

It is my purpose to-night to present a résumé of the immediate and remote results in these one hundred cases and also to report a few illustrative cases.

The different points in the technic I shall omit from my paper, also the indications for performing conservative operations.

The Immediate Results.—Three patients out of 156 have died as a result of operation; one, a case of colpotomy in which there was a secondary hemorrhage, my only case of the kind; the second, a case of neglected and septic ectopic pregnancy, in which I made an error of judgment in resecting the remaining ovary and tube, and the third, a case of multiple operations for adherent retroversion with salpingitis and appendicitis, and ulceration of the bladder on a patient who, unknown to me, was very much debilitated at the time of operation. In these cases, in order to treat the ulcerated bladder, I exceeded my customary rule of finishing all operations within two hours. The patient died of shock in thirty-six hours.

Among my early operations, certain of the patients had marked enlargement of a resected ovary in the weeks immediately following operation, the enlargement disappearing in the course of time. Some of the patients had a good deal of pain. Latterly these phenomena have been noted less frequently, and I am inclined to think that the enlargement and pain were due to free puncturing of cysts without especially careful measures to produce hemostasis, and that the enlargement and pain were caused by hemorrhage as well as by trauma.

Pelvic inflammatory exudate about ovary and tube has been noted in a few cases following resection of a closed tube, these being in the old gonorrheal cases as far as could be determined, at all events in those patients who had had repeated attacks of pelvic inflammation previous to operation.

In other respects the convalescence from operation has been as uneventful as in other similar operations where ovaries and tubes had not been resected.

We must recognize the fact that as a general rule conservative operations require a somewhat longer time for their performance than the radical operations, and it is important to bear this in mind when operating on enfeebled patients. My rule in performing all multiple operations is to do nothing more than can be well done in two hours at the outside from the first incision to the tying of the last suture, the patient being carefully prepared and in good condition before the operation. A large majority of this class of operations, which includes the conservative operations, are finished and the patient in bed inside of an hour and a half. The total length of time a patient is under ether is in my opinion of more importance than the time taken in removing any given tumor.

The Remote Results.—The greatest interest centers in the late results of the preservation of ovarian and tubal tissue. We are all en-

[1] Read before the New York Academy of Medicine, February 7, 1901.

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gaged in the determination of the value of leaving an ovary or part of an ovary when it is necessary to do hysterectomy, as in the case of fibroids. In the few instances in which I have followed this plan the symptoms of the artificially induced menopause have seemed to be lessened. We must entertain the possibility of pregnancy occurring in the Fallopian tube or in the abdominal cavity where the uterus has been removed and ovary and tube are left. An instance of this has already been reported in literature.

To summarize the statistics presented in my paper of last May and also the statistics of fifteen additional cases which have been collected since then, it appears that symptomatic cure was recorded in 73 out of 100 cases and 27 were not relieved. From the fact that a large number of the patients were pronounced neurasthenics, and from the inherent difficulty in determining in this class of cases the relative causative effect of disease of the uterine organs and disease of the nervous system on the symptoms presented in a given case, we are not to attach too much weight to these figures. The data are all from my private notes taken with the purpose of reporting the results, and a large majority of the patients have been under my personal observation.

Anatomical cure (ovaries and tubes normal to feel and well placed) was noted in 44 out of 69 cases who came under observation, or 64 per cent. Some enlargement or prolapse of ovaries and tubes was found in the remaining 25 cases. Pregnancy following operation occurred in 19 cases. In no instance, however, did pregnancy result after the resection of a closed tube, both tubes being closed at the time of operation.

To estimate the probability of pregnancy occurring after conservative operations on the ovaries and tubes we must deduct from the list of married women those who have been through subsequent oöphorectomies or hysterectomies, those who have become widows or have taken measures to prevent conception, and we must add those who have been married since operation. According to my list, which must of necessity be more or less inaccurate, 32.7 per cent. became pregnant. Furthermore, it is a noteworthy fact that all of the cases of subsequent pregnancy except three had had one or more pregnancies previous to operation, so that we may say that 34½ per cent. of those who had previously borne children became pregnant after operation, whereas only 6⅓ per cent. of those previously sterile subsequently became pregnant.

Several of the unsuccessful cases have been women over thirty-five years old with extensive, long-standing tubal and ovarian disease; and it would seem that it is less desirable to subject such cases to conservative operations than the younger women with the same trouble, for at this time of life the patient is suffering not so much from the ovarian and tubal affection as she is from the long-continued effects of it. There is little chance that the uterine organs, diseased for many years, will be able to regain an approximately normal condition in the remaining years of functional activity, both because of the limited time and because the reparative powers of the system are less vigorous than at an earlier age. Therefore these patients either need no operation at all or they need an operation which will eliminate entirely the ovarian function, thus doing away with monthly pain and discomfort, an additional burden to an already jaded nervous system.

As bearing on the question of resected ovaries becoming diseased at some future time the following quotation from the paper already referred to embodies my views:

Out of all the 85 cases, in only one case, a syphilitic, was another operation necessary because of such subsequent enlargement of an ovary resected for cystic disease. In 3 instances in which one ovary was removed and cysts were punctured in the remaining ovary because it was cystic, another operation was required. In 7 other cases a remaining ovary, cystic at the time of operation, was later noted as being large, although causing no ovarian symptoms.

In 5 cases of the extensive purulent inflammatory type, all of them gonorrheal and 3 of them syphilitic, one ovary and tube being removed in each case, the remaining ovary became diseased following operation, and another operation was indicated, although as yet only one of these patients has actually submitted to operation.

In 2 of my early cases, both gonorrheal, a diseased ovary was left in the bottom of the pelvis, in one case after the removal of the sac of an ectopic pregnancy, and in the other after the removal of a pus tube. Both of these women have been sufferers since their operations, six and seven years ago respectively, but have not been willing to undergo another operation.

As far as I have been able to determine, the amount of ovarian tissue present has no definite relation to the amount of menstrual flow or to the intensity of sexual desire and gratification.

The most unfavorable cases for conservative operations are, in my judgment, the pronounced neurathenics who are approaching the menopause, also patients with long-standing gonorrheal infection, and those having both ovaries thoroughly riddled with cysts.

Illustrative Cases.—When it is not advisable to remove the uterus, in chronic inflammatory diseases of the appendages, especially in young women, it is best to leave some ovarian tissue, even in the presence of early tuberculosis. The following case in an instance in point:

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Case I.—M. C. N., twenty-five years old, a patient of Dr. R. A. H. MacKeen of Glace Bay, Cape Breton, was referred to me April 10, 1899. The patient had been married eight years and had been sterile. Chief complaints, poor general health, indigestion, loss of weight, dysmenorrhea of increasing severity, the catamenia always irregular and coming every two or three weeks up to the time of her marriage and since then every three or four months, flow of three of four days. On the months she skipped her periods she had severe pains in the back and groins. No cough; no history of phthisis. Physical examination showed a well-developed, well-nourished woman of dark complexion, weighing about 130 pounds. The uterus was slightly enlarged and in the axis of the vagina, both ovaries and tubes being large and adherent. Abdomen soft; not especially sensitive. Heart and lungs negative.

Operations May 11, 1899. Curetting, removal of right ovary and tube, resection of left ovary and tube, suspensio uteri. By curetting a large amount of soft tissue was obtained. On opening the peritoneal cavity it was seen that the parietal peritoneum and portions of the peritoneum on loops of intestine were studded with translucent glistening bodies the size of millet seeds that felt rough to the touch. An ounce or two of free fluid in the peritoneal cavity. Both ovaries and tubes large and the ostia of the tubes closed and ovary and tube adherent to each other. Omentum large and firmly adherent to the peritoneum over the bladder and about the pelvic brim. Appendix vermiformis normal.

The adhesions were separated and bleeding points in the omentum tied and the entire right ovary and tube removed, including a small hard nodule in the structure of the tube imbedded in the uterine tissues at the cornu, a special dissection being necessary to get it out. Oozing was controlled by a continuous suture of catgut from the ovarian vessels to the uterus. The proximal three centimeters of the left tube appeared to be normal and accordingly it was not removed, no attempt being made to form a new ostium, a difficult procedure in this portion of the tube. Three-quarters of the left ovary was removed by a V-shaped incision along the outer border. A separate tie was placed on the ovarian artery and the edge of the broad ligament and the cut surface of the ovary were sewn together with a continuous lockstitch of catgut. The uterus was suspended by three sutures of chromicised catgut passed transversely through the posterior face of the fundus, the parietal peritoneum and transversalis fascia. Irrigation of the peritoneal cavity with normal salt solution, some being left in, and closure of the abdomen without drainage completed the operation.

The patient made a good convalescence and when she went home, June 14th, the uterus was well suspended and the left ovary a little larger than when it was resected.

The pathologist at the Harvard Medical School, to whom the specimens removed were submitted for examination, reported as follows: "Ovaries large, containing small cysts. Tubes convoluted, matted, enlarged to the size of the little finger, on section showing yellowish fluid. Microscopic examination of the tubes shows great proliferation of the connective tissue and mucosa and characteristic tubercle. Ovaries showed distended blood-vessels, numerous corpora and simple retention cysts. The diagnosis is tuberculosis of the tubes and chronic oophoritis."

A month ago Mrs. N. wrote me that she was enjoying the best of health. Her weight was 168 pounds, she felt well and strong, had no cough and her catamenia were regular and painless every month. I have recently had a similar statement from Dr. MacKeen as to her condition.

When the tubes are found to be open at the time of operation subsequent pregnancy is common even if only a small portion of ovary is left. The following case, which was left with one tube and a third of one ovary will serve as an example:

Case II.—D. W., twenty-five years old, married, entered my service at St. Elizabeth's Hospital October 27, 1899. She had had one child three years before and one abortion at three months, two months before. The monthly periods had been irregular since the abortion, coming every two or three weeks, lasting three to four days, and using twenty-four napkins. Chief complaints, weakness, pain in the sacral region and left groin and a bearing down sensation in the rectum. She also had incontinence of urine when the bladder was full. The uterus was retroverted in the axis of the vagina and enlarged so that the cavity measured 8 cm.; there was bilateral laceration of the cervix with eversion of the lips; the pelvic floor and perineum were lacerated to a medium extent, and both ovaries were enlarged, the left being the size of a hen's egg.

The operations consisted of curetting, trachelorrhaphy, perineorrhaphy, removal of left ovary and tube, resection of right ovary, and suspensio uteri.

On opening the abdomen both tubes were found to be normal. The left tube was so closely adherent to the left ovary, which was converted into a thin-walled cyst 5 cm. in diameter, that it was removed with its ovary. The right ovary was enlarged to twice the normal size and was full of small cysts. The outer two-thirds were removed and the edges of the rent in the remaining third brought together with a continuous lockstitch of No. 1 catgut.

The patient made a good recovery and went home in three weeks, the ovary not being dis-

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tinguishable by bimanual palpation at the time of her discharge from the hospital.

She menstruated only once after getting home as she became pregnant. Her pregnancy was perfectly normal and was followed by a normal labor, and December 1, 1900, she brought her large, healthy baby to my office. At that time her uterus was in good position, well involuted and the right ovary could not be felt.

Normal pregnancy and labor following resection of the ovaries in a woman six years married and sterile, having retroversion with dense adhesions, the tubes, however, being normal, are shown in the next case.

Case III.—M. C., twenty-five years of age, was sent to me September 29, 1899, by Dr. J. P. Treanor of Dorchester, Mass. The patient was a well-developed and well-nourished woman presenting a history of phthisis and cancer on her mother's side. She had had a long persisting middle-ear catarrh two years before and had had poor general health since marriage six years before. No history of gonorrhea. Had had a vaginal discharge since eighteen years of age, yellow and irritating, and at times enough in quantity to require the use of a napkin. Further symptoms were pain in the back, irregular and profuse catamenia, poor sleep and poor digestion.

The uterus was in the third degree of retroversion and fixed and slightly enlarged. The ovaries could not well be made out. The crown of the cervix was extensively eroded, more especially front and back.

Operations December 11, 1899. Curetting, trachelorrhaphy, resection of both ovaries, and suspensio uteri. Trachelorrhaphy was performed in order to do away with the erosion. On opening the abdomen the cul-de-sac of Douglas was found to be entirely obliterated by adhesive inflammation and the ovaries and tubes were riding on top of the exudate, the right ovary being enlarged to twice the normal size and cystic, and the left ovary moderately cystic. Both tubes soft and swollen, but with ostia open. The right ovary was freed from adhesions and a third of it cut away, two cysts being enucleated from the remaining portion. Two cysts in the left ovary were punctured. The cul-de-sac was freed by a somewhat difficult dissection and the uterus suspended.

The convalescence was uneventful and the patient was sent home in three weeks. March 27, 1900, I examined her and the uterus was in place and was pregnant. Dr. Treanor telephoned me two weeks ago that Mrs. C. had had a normal pregnancy and gave birth to a healthy boy at term, the labor being entirely normal.

I will close this paper with the report of a fourth case, which, though strictly speaking not a conservative operation, the ovary being left behind in the pelvis because it could not be found, is quite unique in my experience.

Case IV.—A. H., thirty years old and married 13 years, was referred to me by Dr. E. M. Buckingham of Boston May 19, 1899. She gave the following history: Had had four children, the youngest being a year and a half, and three miscarriages. The first labor was terminated by embryotomy, the others were normal. There had been a curetting after one of the miscarriages, nothing of note as to the others. Catamenia very irregular and the flow scanty. Has been flowing a little for the last six weeks and has had constant pain in the abdomen extending down the thighs, and pain in the rectum since the flow began. Gas in the bowels increases the pain, also defecation. Loss of flesh. Patient is nervous and irritable in temper.

Physical examination showed a tall, well-developed and well-nourished woman of dark complexion. Skin of abdomen soft and wrinkled, vulva gaping, urethra dislocated downward, uterus in good position in the pelvis, somewhat enlarged, with bilateral tear of the cervix of moderate degree. A mass behind the uterus the size of a Florida orange, of irregular outline and excessively sensitive to the touch. Probable diagnosis, ectopic pregnancy with lacerated cervix and perineum and dislocation of the urethra downward.

Operations, May 25, 1899. No tissue was obtained by curetting. The cervix and perineum were repaired by rather extensive operations. On going through the thin abdominal walls dark blood was found in the peritoneal cavity; the omentum was large and thin. The mass in the cul-de-sac was made up of blood-clots and both ovaries and tubes matted together. The clots and as much of the sac of plastic lymph enclosing them as possible were removed. The left tube measured 4.5 cm. in length and 3 cm. in diameter. In its outer third was a mole of firm consistency, the walls of the tube being much distended but intact, the hemorrhage having come through the ostium abdominale of the tube. The inner third of the tube showed two little hard nodules the size of pea beans in the substance of the tube and occluding its lumen. The right ovary was converted into a cyst the size of a hen's egg and there was no good ovarian tissue which could be preserved. The right tube was enlarged, thickened, convoluted, adherent to the cyst wall, and its inner third was studded with hard nodules similar to those in the left tube. The left ovary could not be found but was thought to be incorporated in the sac of the pelvic hematocele, all of which could not be removed owing to lack of time. Both tubes and the right ovary were removed completely by cutting them away and sewing the edges of the broad ligaments over and over with chromicised catgut, making extra ties for the ovarian arteries. A small piece was taken out of the uterine tissue at each cornu of the uterus so that no tubal tissue was left behind.

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The uterus was suspended to keep the fundus out of the raw surface in the cul-de-sac and to counteract the dislocation of the urethra. Salt solution was left in the peritoneal cavity and the abdomen closed without drainage.

The convalescence was interrupted by an attack of cystitis of mild grade lasting two weeks. In a month, when the patient went home there was good union in the cervix and perineum and abdominal wound, the uterus was well suspended and the cul-de-sac free.

The pathologist examined the specimens removed and reported that there were no evidences of ectopic pregnancy.

Now come the unusual features of the case. Six months after the operation a physician in a neighboring town, who was taking care of Mrs. H. at the time, telephoned me that she was two months' pregnant to the best of his judgment, and two months later the patient's husband said she had had a miscarriage. December 29, 1900, in response to my request, she came to my office and I then learned that she had had a miscarriage without doubt: she saw the fetus, which was well-formed and of the male sex, and the miscarriage had been at four months as nearly as she could calculate. Furthermore, at the time of her visit to my office, a year and a half after her operations, she had gone over her time three months, having been previously regular every month since the operation, with the exception just noted, and by examination she proved to be three months' pregnant, not a sign or symptom being lacking to the diagnosis.

We have in this case an example of pregnancy occurring twice following complete removal of both tubes and one ovary for tubal mole, chronic salpingitis and cyst of the ovary. As an explanation we have to assume that an opening became established at the uterine cornu on one side or the other, between my catgut stitches, so that the uterine cavity was connected with the peritoneal cavity where the missing ovary was located, and without the intervention of the tubes.

The case becomes especially instructive when considered in connection with the reported cases in which stumps of tubes, which had been tied off by means of mass ligatures at previous operation months or years before, were found to have patent canals leading into the uterus; and also with those cases found in literature, of pregnancy following removal of both ovaries and tubes, assuming in the latter cases that a portion of ovary had been included in the ligature which was tied about the ovary and tube, or, less likely, the existence of a third ovary.

In my case every bit of tubal tissue was carefully removed and in spite of this fact ova from the lost ovary succeeded in getting into the uterus and becoming fertilized, illustrating the persistency with which Nature in the face of difficulties maintains a path for the passage of the ovum, and in marked contrast to our cases of resection of closed tubes in which, pregnancy not supervening, we must assume that the tubes subsequently became closed.

TROPACOCAINE HYDROCHLORATE.—A SUBSTITUTE FOR COCAINE HYDROCHLORATE IN SPINAL ANESTHESIA.

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IN a recent communication (*Centralblatt für Chirurgie,* March 2, 1901), Dr. Karl Schwarz, Hospital Surgeon in Agram, publishes his experience with tropacocaine in spinal anesthesia. With the view to avoiding the annoying immediate and after-effects resulting from the use of the ordinary cocaine in this kind of anesthesia, Schwartz first experimented with eucaine B, but soon discarded it, since the same disagreeable symptoms connected with the use of cocaine were observed and the analgesic effect was much weaker.

He then tried to utilize the experience of R. Pitesci, who had found that a second subarachnoid cocaine injection on the same patient is not attended by any of the unpleasant effects generally seen at the first injection. Schwarz, therefore, proceeded to immunize the patients, so to speak, against the effect of the cocaine, by giving them a hypodermic of ⅓ grain of cocaine the day preceding the operation. However, the result was not satisfactory. As a third trial he employed tropacocaine. After a number of carefully conducted experiments he found that 5 centigrams (5/6 grain) of this drug, injected into the subarachnoid space, produced as perfect an analgesia as the ordinary cocaine, and none of the usual symptoms, such as pallor, perspiration, nausea, vomiting, headache, dizziness or rise of temperature were observed in any of the sixteen patients thus rendered partially analgesic by him. Ten minutes after the injection analgesia was generally complete and absolute until the end of the operation, the latter having lasted as long as two hours in one instance.

Two days after the respective number of the *Centralblatt* had come into my hands, it so happened that I had to perform nephrectomy for tuberculous disease in a patient, thirty-seven years of age, who had been afflicted with urinary symptoms for more than three years. He was much emaciated, expectorated a scanty amount of sputum containing tubercle bacilli, had hectic fever and such continuous pain in his left side that he was unable to walk straight, and was deprived, more or less, of sound sleep. Within the last six months the pain had extended to the right side. Urinary analysis showed that in 2,040 c.c. of urine voided in twenty-four hours, he discharged only 13.6 grams of urea, thus proving beyond a

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doubt that both kidneys were affected. Under ordinary conditions I should certainly have refrained from operating on a patient like this, and rather have sent him South, placing him under general hygienic régimé, etc. As it was, the incessant pain was becoming unbearable to the patient, and operation on the left kidney was clearly indicated. Naturally, I did not like to employ general anesthesia in a case like this, and so resolved to try tropacocaine. Knowing from correspondence with Dr. Dudley Tait, of San Francisco, who, as is well known, has made many interesting experiments with spinal anesthesia, that a larger quantity of liquid injected into the subarachnoid space would spread analgesia further upward, I dissolved 5 centigrams of tropacocaine in 50 minims of sterilized water immediately before operation, and injected the same between the fourth and fifth lumbar vertebræ, with the patient in the scorcher position. Twelve minutes later, the field of operation having been cleansed and the patient placed in the proper position, operation was begun. In addition a suggestive general anesthesia with one part of alcohol and two parts of water on Esmarch's mask was employed, a deception which I generally practise in cases of spinal anesthesia and which I can highly recommend, especially when dealing with neurotic patients. Simon's longitudinal incision was employed, the twelfth rib resected with Gigli's saw and the kidney brought in front of the wound. At this stage of the operation only did the patient complain of any pain; evidently the analgesia did not reach the upper pole of the kidney, so that the manipulations of loosening it from below the diaphragm, as well as traction on this part of the organ, were felt by the patient. The ureter was then tied and, after proper isolation, the vessels were ligatured *en masse*. An anomalous plexus of vessels entered the lower pole of the kidney.

The operation was an almost bloodless one, the patient certainly having lost not more than a tablespoonful of blood. In view of the fact that the urine was loaded with tubercle bacilli and that some urine had entered the wound when dividing the ureter and, later, cauterizing and ligating its stump, the deep wound was drained in part and the upper angles were closed with catgut stitches. The operation lasted about forty-five minutes.

During all this time the patient had not complained of pain, except on traction of the upper pole of the kidney. There had not been any nausea, vomiting, perspiration nor pallor. The pulse, which had been 100 before operation, had gone up to 130 and 140 at times, but was full and regular throughout the operation; a hypodermic of 1-50 of nitroglycerin had a markedly beneficial effect upon its character. Half an hour after the injection, analgesia was still perfect up to a line corresponding to the junction of lower and middle third of the space between the umbilicus and zyphoid process. After completion of the operation, the patient smiled at the narcotizer, telling him that he (the patient) had fooled him in making believe that he was sleeping, when in reality he had been wide awake the entire time—certainly a significant joke, when *we* had tried to fool him. Following the operation none of the usual complications seen after the use of cocaine hydrochlorate were observed. There was not any rise of temperature, vomiting, headache nor other neuralgia. The patient felt perfectly well.

The removed kidney showed a beginning tuberculous abscess in the upper pole of the pelvis and numerous tuberculous infiltrations of the parenchyma up to the cortex. Very little urine, loaded with pus, was passed during the first twenty-four hours following the operation, still less during the next day. On the close of the second day urinary discharge ceased altogether. Evidently the ureter had become clogged, and an operation upon the other kidney was therefore decided upon. This was again done under spinal anesthesia seventy-two hours after the first. This time the patient was rather nervous, and begged to be rendered unconscious. However, after explaining to him the risks involved in general anesthesia, he agreed that I should proceed in the same manner as before. Again 5 centigrams—this time dissolved in but 40 minims of sterilized water—were injected. On beginning to operate, ten minutes later, the patient complained of pain. Ten minutes later, anesthesia yet seemed to be somewhat imperfect; handling of the kidney, especially traction on the same, was again painful. Resection of the twelfth rib, which again was necessary, however, passed unnoticed. The right kidney was very large, and, to my dismay, in a state of cystic degeneration and filled with pus. The cysts were evacuated. The kidney was then replaced and the wound drained. During the entire operation the pulse did not vary in frequency, was of good quality and did not require any stimulation; and again, none of the so often seen symptoms following injections of the ordinary cocaine were observed, neither during nor after the operation.

Certainly, this second anesthesia was not as ideal as the first. The cause may be due to altered circumstances; the general condition and nervous apprehension of the patient and the fact that the salt had been dissolved in ten minims less than at the first anesthesia.

Two days after this operation I had a third experience with tropacocaine which, exciting as it was, proved beyond a doubt the superiority of tropacocaine over cocaine, as regards avoiding the subsequent clinical complicating features.

Mr. J. S. had had nephrotomy performed eight years ago for right renal suppuration. About two ounces of pus had been removed from the pelvis and the latter drained. No stone was found. During convalescence the left kidney became seriously affected; marked renal hematuria and pyuria. Patient improved under symptomatic treatment. Repeated attacks of pain in the left lumbar region pointed to a continuation of the disease on the left side. Catheterization of the ureters done by me in 1897 pointed to a sup-

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purative process in the left kidney, for which nephrotomy was proposed. The patient refused operation and did not consult me again until the beginning of March, 1901, by which time the frequent pains in the left kidney had become unbearable.

Cystoscopy showed that the mouth of the left ureter was blocked by a calculus which also could be felt later with the stone-searcher. Urinary analysis which had been made two days previous, therefore referred to the excretion of the right kidney only, and proved beyond a doubt that the same was still diseased. Under stimulating treatment the obstruction in the left ureter was removed; an immense amount of coagulated fibrin, pus and small irregular pieces of calculus were passed. After this the patient rapidly recuperated, but the pain in the left side persisted, though less severe. Analysis of the material passed after the blockade of the left ureter had been raised made it probable that a phosphatic shell had been loosened by the suppurative process from a more compact nucleus. An X-ray picture was taken, but failed to show anything definite. Exploratory nephrotomy was proposed, accepted and done under spinal anesthesia with tropacocaine on March 23d. Puncture between fourth and fifth lumbar vertebræ, with patient in scorcher position. The needle had to be introduced deep. While injecting the first two-thirds of the solution (5 centigrams dissolved in 50 minims of distilled water), it was noticed that the syringe worked rather hard. After pushing the needle forward for about two millimeters, the remainder was emptied with the usual ease. Conclusion: tip of needle must have been accidentally withdrawn for a minimal distance, but sufficiently to cause the first portion of the syringe to be injected probably outside of the dural sac. Fifteen minutes later, anesthesia had not yet begun; second injection was therefore made at same spot. Needle struck subarachnoid space about one inch nearer than before. This time 4 centigrams were injected and certainly all emptied into the subarachnoid space. Complete anesthesia was established two minutes later.

Fifteen minutes after completion of second injection, there was sudden acceleration of pulse, which soon became very thready and disappeared entirely at radials. Profuse perspiration; patient in complete collapse; nausea, vomiting. By placing him in pronounced Trendelenburg posture and employing strong hypodermic stimulation with nitroglycerine, hyoscine hydrobromate, etc., the heart's action soon improved and allowed us to finsh the operation. Complete anesthesia lasted for one hour and fifteen minutes; then began to wear off. Manipulation of the kidney was again rather painful.

Of the first injection, 0.016 of a gram, approximately, had entered the suarachnoid space, 0.034 the tissues outside of the dura mater sac. At all events, the patient had gotten 0.09 of a gram (1½ grain) of tropococaine into his system, a dose almost twice as large as that usually required. I fully admit that the amount injected was too large. On the other hand, it is a most difficult question for the surgeon to decide how large the dose should be for a second injection if such be required. In another similar emergency, I should certainly administer a hypodermic of 1-50 to 1-25 of nitroglycerine *before* giving the second spinal injection, and place the patient in Trendelenburg's posture as soon as the needle has been withdrawn. I believe that by so doing annoying experiences like the one just related may be averted.

It certainly would be distressing to be forced to make a third injection if the second should prove to have been insufficient, and the surgeon in his endeavor to guard against such result is apt to inject more than is absolutely necessary. Of course, this latter point can never be definitely determined beforehand. But, be this as it may, the case proves beyond a doubt to my mind the absolute superiority of tropacocaine over cocaine in spinal anesthesia. The patient did not suffer any of the numerous symptoms incidental to the use of cocaine in spinal anesthesia. He developed no temperature, felt perfectly well during the latter part of the afternoon and night following the operation. At the beginning of the third twenty-four hours after the operation the temperature once touched 102° F., with a pulse of 72. This rise may have been due to the wound. After the gauze tampons, partially filling the wound only, had been removed the temperature promptly dropped to normal.

On March 28, 1900, I removed a multiple papilloma of the bladder in a man aged forty-nine years, under spinal anesthesia with tropacocaine. A few drops of the 50 minims of distilled water in which the five centigrams of the salt had been dissolved, were lost. Patient got between 0.04-0.045 tropacocaine into his subarachnoid space. During the first forty-five minutes of the operation, which was begun ten minutes after completion of the injection, analgesia was perfect. Then the patient began to complain. He felt the working of the Paquelin cautery during the shelling out of the pedicle of the second tumor. The operation was finished under general anesthesia.

It seems that fully 5 centigrams (⅝ of a grain) are required to produce satisfactory analgesia for an operation lasting one hour and longer. perhaps 0.06 (1 grain) of the salt may be injected with impunity previous to more serious operations, if a subcutaneous injection of 1-50 of nitroglycerine is given at the same time. More study is required. It will most probably be shown that certain individuals have an idiosyncrasy also with regard to tropacocaine. My second case, just reported, certainly points that way.

Tropacocaine was discovered by Giesel in 1891 in Javanese coca leaves, and more closely studied by Liebermann, who succeeded in producing it synthetically. Later Willstatter discovered a way of preparing tropacocaine from tropine a fractionation product of atropine and hyoscyamine.

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His method is the one now exclusively employed in the manufacture of the alkaloid. Since then the salt has been studied by many investigators, and the following points of importance in comparison to cocaine were found:

1. Tropacocaine is less than half as toxic as cocaine.
2. The depressing action, both on the cardiac motor ganglia and on the cardiac muscle, particularly the latter, is much greater with cocaine.
3. Recovery from its effects is much more rapid.
4. The solution is by far more stable than that of cocaine hydrochlorate.[1]

It would therefore seem that the surgeon is allowed to have prepared and preserve a solution for spinal anesthesia. It also seems that we may be allowed to sterilize it by boiling. However, this latter point will have to be determined by actual experience.

I shall hereafter have the solution made as follows:

Tropacocaine hydrochlorate ..... gm. 0.015 (¼ gr.)
Sodium chloride.....0.06 (1 gr.)
Distilled water.....10.0 (ʒiiss.)

Each ten minims of this solution contain one centigram (⅙ grain of the salt) fifty minims, therefore, contain 0.05, the generally required dose.

In view of the importance and great interest that is attached to the subject of spinal anesthesia at the present time, I thought I would publish my experience thus far, even if only to add a few more instances, demonstrating the usefulness and superiority of tropacocaine in spinal anesthesia, to the sixteen cases which have been reported by Schwarz.

I have thus far employed spinal anesthesia in the surgery of the urinary system only such as Bottini's operation, litholapaxy, vesical tumor, primary and recurrent, and must confess that in every instance I have been delighted with its immediate local analgesic effect. And, while, of course, the unpleasant symptoms accompanying the use of cocaine in spinal anesthesia are deplorable, it must be remembered that general anesthesia also quite frequently is attended by the same annoying symptoms, except, perhaps the fever. I have been satisfied so thoroughly with my results that I fully made up my mind to continue spinal anesthesia in urinary surgery. Now, however, since the drawbacks hitherto connected with this mode of producing widespread analgesia seem to have been removed, I shall be all the more ready to make use of this kind of anesthesia whenever the indication is present, and, I am sure, others will feel the same way in regard to this question.

Of course, further investigation and careful observation are needed to settle definitely many important and interesting points which are still *sub judice*.

[1] See *Merck's Archives*, July, 1899.

A STUDY OF CASES PRESENTING SYMPTOMS OF ASTHENOPIA AND ANOMALIES OF THE OCULAR MUSCLES IN WHICH ABLATION OF THE MIDDLE TURBINAL WAS EFFECTIVE TREATMENT.

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THE late Dr. Henry D. Noyes has said[1] of the class of cases to which the following histories belong, "The judicious and skilful treatment of cases of muscular asthenopia with all the complications which may co-exist is the highest problem in ophthalmology." He has also stated,[2] "asthenopia as a reflex effect from the nasal mucous membrane. . . . was noted by Dr. Schweigger. I have long recognized an intimate relation between nasal catarrh and chronic conjunctivitis, and that with it asthenopic symptoms are frequent." These words of that careful, scientific investigator of all knowledge in the field of ophthalmology, have been ever present to the writer when studying his cases and he seeks here only to add his quota of observations to the total sum of them that shall ultimately clarify these problems. In doing so he asks acceptance of his facts alone and not of his theories or inductions except so far as they spring logically and necessarily from the facts. The aim to find important truth, and not the interest inherent in the histories, is the sole reason for their presentation.

Case I.—Miss M. K., seamstress, twenty-seven years old, robust, muscular and in good general health, complained to me on December 2, 1899, that for years her eyes had been "weak." For more than two years her vision had been much poorer than before, blurring in her work on white goods. She had constant daily headaches and was becoming irritable. Occasionally her headaches were severe causing a dull, heavy, pressing ache, chiefly in the left temple, extending to both the vertex and occiput. They were accompanied by throbbing at the left side of the nose and inner canthus of the left eye. Vision $^{2}/_{10}$ with each eye. Considerable astigmatism; at 20 feet, adduction 17°, abduction 6°, esophoria 1°. At 10 inches, exophoria 5°, on dissociation with 10° prism.

December 5, 1899. Under atropine V = $^{1}/_{10}$. O. U. The following correction was given which raised V to $^{4}/_{10}$ in each eye. O. D. + 1.00 D ⌒ 4.00 cyl. ax. 10°; O. S. + 1.25 D ⌒ —5.50 cyl. ax. 180°. These glasses made considerable improvement. Vision was clear. Patient could work with comfort, she became less irritable and was confident she was all right.

July 7, 1900, nearly seven months later, she returned and said that something must be going wrong. Her glasses no longer relieved

[1] "Diseases of the Eye," 1896, p. 207.
[2] Ibid., p. 197.

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her headaches though she saw clearly with them. Nervousness and sleeplessness were reappearing. Eyes were bloodshot and swollen mornings. Former pressure-pains on left side of head going to vertex and occiput were now more severe accompanied at times by the feeling of "cold water trickling down" the left temple as well as throbbing at the inner canthus of the left eye and numbness over it. Seven weeks ago burst into tears at her work in one of these attacks of headache. She feared she might go crazy with it. Re-examination of her eyes satisfied me that her glasses were not at fault. The muscle tests showed the same findings as before. In making my first examination in 1899, I had not omitted to make my routine examination of the nose; but I had not noted any fault, probably because impressed with the considerable error of refraction to which for the moment all blame was attached. I now examined with more care and found the septum somewhat deflected opposite to and against the left middle turbinate. The right turbinates were hypertrophied, the middle being overgrown into the deflection and touching the septum. The left middle turbinate was tightly compressed and exquisitely tender. July 10, 1900. From my experience with similar cases I knew that removal of the left turbinal was demanded and consequently removed it. July 11, 1900. The severe head-pain is gone. Some shooting pains on right side of the head and tinnitus in the right ear. Some tinnitus of a blowing character had occasionally been felt for a long time in the left ear but not before in the right.

July 25, 1900. For more than a week, the patient has been free from all her symptoms, her new sense of comfort being so marked that she "feels like a new person" and indulges in extravagant expressions of delight.

October 23, 1900. Three months have elapsed since the last record. No headaches, no discomfort during the period. Patient sews all day without discomfort. There are no nervous spells, irritability, nor fear of going crazy. The muscle tests show little change. Adduction 15°, abduction 6½°. But, whereas there was at the near-point a slight exophoria of 5°, now there is equilibrium.

February 8, 1901. Comfortable use of the eyes has continued to the present time. All severe symptoms are a thing of the past. The patient is contented and satisfied that now she is all right, having enjoyed six months of freedom from the former symptoms and terrors. It is noteworthy that the nervousness and irritability which characterized her former state have disappeared. Besides, the tinnitus of the left ear which had been obtrusive enough at times to be greatly disturbing, has been gradually diminishing.

Case II.—E. A., girl of nineteen years of age, in good health, sensible and without unusual nervous susceptibilities, decidedly not neurasthenic. Two years ago had "grip." Following that had colds in the head almost constantly, even during the summer of 1899, as well as during the winter of 1899-1900. She had occasional twinges of rheumatism in the right shoulder in winter. During this period the eye-lids felt heavy and smarted, the eyeballs pained and the forehead ached, especially over the right eye. She would often awake at night with pain referred to the right ear. Use of the eyes in reading caused headaches, so that she gave up reading. In July, 1900, she consulted the best oculist known to her, an eminent man of cosmopolitan reputation, a member of the American Ophthalmological Society, who examined her eyes with great care first without a mydriatic, afterwards with a mydriatic. He prescribed for her as follows: O. D. + .25 D. cyl. ax. 180°; O. S. + .25 D. cyl. ax. 90°. Recognizing muscular imbalance, he advised her to have prism exercises which she was at that time unable to take. These glasses were worn with some benefit, but they did not give her enough benefit to enable her to read without headaches.

When I first examined her, October 11, 1900, I found her vision O. D. = $^{10}/_{10}$, O. S. = $^{9}/_{10}$. Very slight astigmatism at 90°, for which her glasses seemed a full correction. Media clear, fundus normal. Adduction 12°, abduction 6½°, exophoria 1°. At the near-point, exophoria 12°. No improvement on exercise of muscles. November 17, 1900. At near-point, exophoria 10°. At 20′, adduction 15°, abduction 6°, equilibrium, no hyperphoria. Still has same discomfort on use of the eyes. Both middle turbinals are tangent to the septum, but the right is pressed tightly against it. She gave the history of a fall upon the ice some years before in which the nose received a severe impact and bled profusely. There was just enough deflection of the septum against the right middle turbinal to lay that fall under suspicion as the cause of it. At this time it is impossible to carry adduction beyond 15°. Removed the right middle turbinal.

November 25, 1900. At near-point, exophoria 9°. At 20′, adduction 25°, abduction 7°, esophoria 6°. November 27, 1900. At near-point exophoria 8°. Adduction 29°. December 2, 1900. Patient reads an hour at a time without discomfort, after which she perceives tire on further use of the eyes. At near-point an initial exophoria of 2° gradually passes to 4°, 6° and even 8°. But, on exercise with prisms to run up adduction to its limit, exophoria at the near-point disappears and an initial esophoria of 2° passes slowly to 4° where it is maintained during the examination. December 6, 1900. The same behavior of muscles for near and on exercise with prisms. At 20 feet, equilibrium, esophoria 2° and 3° are obtained by various tests.

Tests were made every few days and prism

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exercises given until December 16th, when at the near-point there was initial equilibrium passing slowly into exophoria 1° slowly ascending to 8°. After prism exercise in which adduction reached 55° the near test showed at first equilibrium rapidly leaping up to esophoria 24° and then slowly subsiding to esophoria 10° which is maintained during the examination. Reads with comfort. The patient has not since been examined; but on January 1, 1901, she writes that she can read all evening without the least discomfort, keeping this up from day to day without wearing her glasses.

Case III.—Miss A. B., twenty-two years of age, bookkeeper, mentally well-poised, not especially nervous, complained on May 1, 1900, of having had severe headaches for some years which were becoming more frequent and more severe, until of late they occurred almost daily and were "terrible." O. U. V = $^{9}/_{10}$. Javal O. U., .50 cyl. ax. 90° *with the rule.* Accepts + .50 S = $^{10}/_{10}$. Adduction 33°. Abduction 6½°. Esophoria with Maddox rod 18°, prism 16°, cobalt 12°, Graefe 12°. At the near-point, esophoria 2°. There being good muscular balance for function at the near-point, cause was sought elsewhere for the severe symptoms. A menorrhagia of moderate amount two years ago had yielded kindly to treatment by her physician and was no longer in evidence. As in the other cases, however, a faulty condition of the right middle turbinate was found. The left middle turbinate was normal. The right was removed. Three weeks later, on May 23, 1900, adduction was 25°, abduction 6½°, esophoria 10° (with four tests). At the near-point esophoria was 7° During these three weeks there was not once a severe headache, but there were some light headaches becoming lighter and fewer. June 25, 1900. Improvement maintained. October 19, 1900. No severe headache at any time since the operation. Comes to me at this time for some blurring of vision which has been with her during this whole period. Under homatropine V. O. D. = $^{2}/_{10}$ +. Javal .50 c. a. 85°. + 1.00 s ⌒ + .25 cy. ax. 85° = $^{9}/_{10}$ +. V. O. S. = $^{8}/_{10}$ +. Javal .50 c. a. 90°. + .75 S ⌒ + .25 cy. ax. 90° = $^{9}/_{10}$.

Ordered

O. D. + .50 S ⌒ + .25 cy. ax. 85°
O. S. + .50 S ⌒ + .25 cy. ax. 90°

After wearing this correction two weeks, the patient reported freedom from blurring as well as from headaches.

February 12, 1901. Nine months without severe headache. Menstruation quieter and better since than before operation. At near-point esophoria 2° to 4°. Abduction 5°, adduction 37°, after which esophoria at 10″ ran up to 18° and steadied itself at 14°. At 20 feet, esophoria 10°.

Case IV.—C. B. C., a young man twenty-two years old, matter-of-fact, steady, unemotional, of good habits, came to me December 21, 1899, for examination of the eyes. He complained of headaches referred to the forehead over the left eye, pain in both eyes and in the eye-lids when at his work on books during the day and utter inability to read at night without great discomfort. For four years he had been wearing + .50 d. s., O. U., given him by an optician, without getting any abatement of his symptoms. I found his vision $^{10}/_{10}$ with each eye, astigmatism one-half diopter *with the rule,* adduction 17°, abduction 7°, exophoria ½°. At near-point, equilibrium. Under a mydriatic V = $^{8}/_{10}$. With — .50 S. V = $^{10}/_{10}$. Clearly this error did not cause his symptoms. Found a spur on the left side of the septum digging into the inferior turbinate in a very narrow nasal cavity, also the left middle turbinate tightly compressed against the septum. Nothing was done with the nose then. The patient made occasional visits to the office for prism exercises. Equilibrium at the near-point was not found subsequent to the first examination. Nothwithstanding these exercises for 6 months, adduction became weaker and exophoria at the near-point greater, until on June 4, 1901, adduction was 10°, abduction 6° and exophoria 10° (at the near-point). Removed the spur from the septum.

July 13, six weeks later, the patient still has headaches on use of the eyes; adduction 17°, abduction 6°, exophoria, 2°. At the near-point exophoria 10°. Removed the left middle turbinate. July 17, 1900. No headache since the operation though the eyes have been in constant use. Exophoria at the near-point 7°, adduction 22°, abduction 6½°. July 25, 1900. Patient says he can now read any length of time without discomfort.

October 19, 1900. Patient has frequently had discomfort in use of his eyes since the last visit but more especially the last few weeks. Found synechial bands between the septum and the outer wall of the narrow nasal space. Severed these bands and introduced thin splint to prevent further adhesions. December 6, 1900. The means adopted were effectual. The nares remained freely open. The patient meanwhile had comfortable use of the eyes. At the near-point exophoria 4°, slowly advancing to 6°. Exercise with prisms carries adduction up to 29°, after which test at the near-point shows esophoria 4° to 10° slowly returning to 4° and remaining there during the examination. At 20 feet, all tests show exophoria ½°. The patient can read for three hours at night without discomfort. December 27, 1900. Practically the same findings and the same satisfactory report as three weeks ago.

January 15, 1901. Improvement in all particulars. Equilibrium at the near-point slowly passing into exophoria as high as 6°. Then prism exercise raises adduction to 32°, after which there is esophoria 4° at the near-point,

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steadily maintained. The patient regards himself as cured of his trouble.

These few cases are selected as some of the types of many others under observation.

In Case I. the refraction was very faulty and seemed to be the adequate cause of the symptoms until complete and careful correction worn for six months failed to ensure relief though it gave fairly good and clear vision. But relief immediately followed removal of pressure between the middle turbinate and the septum. That relief has been complete and permanent and is accompanied incidentally by disappearance of a slight exophoria of 5° for the near-point at which there is now equilibrium and perfect comfort in constant use of the eyes.

In Case II. there was almost no error of refraction but there was decided exophoria at the near-point. Use of the eyes thereat gave headaches too severe to permit of use of the eyes in reading. The history of injury, the finding of pressure, the removal of this pressure, the restoration of comfort in use of the eyes at the near-point because of slow but sure recovery of force and sustained innervation of muscles as evidenced by the change from utter inability to exceed 15° of adduction before operation to ability to reach 55°, and finally the assertion of strength and control by these muscles in the exercise of their function at the near-point increasing on daily use of the prisms until now constant use of the eyes thereat is not only tolerated but enjoyed, these all constitute a congeries of facts and relations that give importance to the one new factor, ablation of the middle turbinal.

The error of refraction in Case III. evidently had nothing to do with the disturbing headaches, for these headaches were removed at once on removal of the offending middle turbinal when as yet no correction had been given for the error of refraction.

Yet during this period of exemption from headaches there was some blurring of vision until the correction was given. Meanwhile very little change took place in the behavior of the muscles: their strength was constant, their harmony of innervation was somewhat bettered. Esophoria for distance was lessened, that for near increased, a relation of adjustment occurring in such cases found associated with more comfortable use and both instantly falling to a minimum when the correction is worn. This betterment followed removal of pressure from the terminal filaments of the nasal branch of the ophthalmic.

In Case IV. only when the left naris was put right and maintained so, did the muscles manifest strength in adduction and good behavior at the near-point, their innervation for that function having again become responsive to efficient use. Hence there can be no question of asthenopia from error of refraction. Neither can there be an iota of question of a neurotic constitution. It seems to be purely a matter of disturbance of innervation of the ocular muscles by irritation of a particular area of nerve distribution in the nasal mucosa.

That a larger proportion of cases of anomalies of the ocular muscles is dependent on this form of disturbance than has generally been suspected, is more than probable.

I wish here to draw attention to a paper in the *Medical Record*, January 30, 1885, by Dr. E. Gruening in which that careful and experienced observer of scientific phenomena gives the history of a series of cases in which treatment of the nose alone was effectual for the cure of the eye troubles although no symptoms were referred to the nose and treatment directed to the eyes had been in vain. He then employs this argument: If an irritant to the nose can cause lacrimation and other eye symptoms, then *a priori* a continuance of such irritation may keep up the disturbances; and, if treatment directed to the eyes fails to relieve them but treatment of the nose does, the more positive *a posteriori* argument presents itself—*causa sublata, tollitur effectus.*

ACUTE TRAUMATIC MALIGNANCY.[1]

BY WILLIAM B. COLEY, M.D.,
OF NEW YORK.

IN a paper entitled the Influence of Injury upon the Development of Sarcoma, read before the New York Surgical Society, November 24, 1897, I called attention to the fact that a very large proportion of patients with sarcoma gave a history of antecedent injury, and I endeavored to show that such trauma had an important etiologic relationship to the tumor. A further and more careful clinical study of malignant tumors has confirmed my conviction that injury constitutes a much more important factor in the causation of malignant tumors, both sarcoma and carcinoma, than has been generally recognized. My earlier paper was based upon an analysis of 170 personal cases of sarcoma, of which number 46 cases or 27 per cent. gave a distinct history of trauma. Of these cases, *classified anatomically*, 18 were osteosarcoma, including 3 osteochondrosarcoma: 6 sarcoma of the soft parts. According to *pathological classification*, there were 29 cases of round-celled; 5 spindle-celled; 5 melanotic; 2 chondrosarcoma; 1 cylindroma; 3 mixed-celled sarcoma and 2 doubtful.

At my request, Dr. C. J. Kane, late house-surgeon of the General Memorial Hospital, very kindly made an analysis of one hundred cases of sarcoma treated at the General Memorial Hospital within the last three years, with the object of determining the relative frequency of antecedent trauma. His statistics give a larger proportion of cases due to in-

[1] Read before the Medical Society of the Greater City of New York, Nov. 12, 1900.

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jury than was noted in my own cases. In 63 local injury of some form had been received prior to the development of the tumor; 27 other cases gave a history of chronic irritation and in only 10 cases was there a history of neither trauma nor irritation.

Of these 100 cases, 17 were small round-celled, 3 large round-celled, 25 spindle-celled, 6 melanotic, 7 chondrosarcoma, 16 osteosarcoma, 5 myelosarcoma, 2 angiosarcoma, 2 adeno-sarcoma, 4 fibrosarcoma, 3 mixed-celled, 3 myxosarcoma, 5 lymphosarcoma and 2 only in which the diagnosis was not confirmed by microscopical examination.

In 68 out of this series of cases the sarcoma occurred in the soft parts; in 32 in the bone.

The tumor was noticed to appear immediately after injury in 6 instances; in 16 cases it was first noticed from one to three months later; in 21 within three to six months; in 24 within six to twelve months; in 1, fourteen months; 1, seventeen months; 1, two years and 1, four years after injury.

Since the publication of my first series have observed 100 additional cases of sarcoma. The histories of these have been studied with much care, especially with regard to the question of antecedent injury. Forty patients gave a distinct history of injury prior to the appearance of the tumor and 8 others, a history of local irritation of some form. In 13 of these 40 the tumor developed within one month after the receipt of the injury, and in 8 of 13 cases within one week.

Adding these to the 18 in my previously reported list, occurring within one month after the trauma (8 within one week) we have a total of 31 cases that may be properly classed as examples of acute traumatic malignancy. Thus, of my entire series of 270 cases of sarcoma, 86 or 31.8 per cent. have a distinct history of antecedent trauma; while in 31 or 11.5 per cent. the tumor developed almost immediately after the injury. There is no special reason for separating these 31 so-called acute cases from the others, save for the fact that in these the connection between the injury and the development of the tumor is so clear and unmistakable that it cannot be lightly explained away as is too often attempted in the cases in which longer intervals of time have elapsed, on the theory of a poor memory or a vivid imagination on the part of the patient. If we can establish an etiological relationship between the trauma and the development of the sarcoma in the group of acute cases, the same relationship will probably be found to exist in the cases of slower development. The more I study the clinical aspects of malignant disease, the more firmly am I convinced that independent and oft repeated statements of intelligent patients with reference to any point, be it concerning heredity, diagnosis or trauma, are worthy of far more consideration than is usually accorded them by the medical profession, and certain it is that the old opinion of the laity, that malignant tumors are frequently caused by blows and injuries, receives more and more support the more familiar we become with the actual facts. It is more than probable that, instead of overestimating the percentage of cases with antecedent trauma, we greatly underestimate it, for the reason that in many cases, especially those in which the tumors are of slow development, the patient has quite forgotten the injury.

The histories of the acute cases show that a very slight injury may be sufficient to produce the growth, and such an injury would probably have been forgotten, had the tumor not developed for months or years after. As recently as 1882, Harrison Cripps of London, although a believer in trauma as a causative factor in sarcoma, stated that not more than 7 or 8 per cent. gave a history of injury. This statement, I think, rested not so much upon facts as upon imperfect histories and upon small series of cases.

Löwenthal, who collected 316 cases of sarcoma in medical literature, giving a previous history of local injury, found that of 190 cases in which the interval between the receipt of the injury and the appearance of the tumor was definitely stated, the sarcoma was observed within one month of the injury in 135. The statistics of Wolff show that 20 out of 100, or 20 per cent., give a history of trauma; while in a series of 344 cases of carcinoma, of the same author, trauma was observed 42 times, or in 12.2 per cent. Samuel Gross, who collected reports of 165 cases of sarcoma of the long bones, found that more than 50 per cent. show a history of trauma.

As evidence that greater attention is given to trauma at the present time may be cited the recent paper of McWilliams (MEDICAL NEWS, April, 1900) giving statistics of 100 cases of carcinoma operated upon at the Presbyterian Hospital of New York, within the last ten years. This series shows a history of antecedent trauma in 44.6 per cent. of the cases.

As regards the influence of trauma upon the development of malignant tumors, Sir William Mitchell Banks, in his recent and very valuable lectures on Cancer of the Breast, states that he has never been able to make out that milk abscesses or scars of incisions have been the starting-points of cancer, and that he has no recollection of a patient directly attributing cancerous growths to them. On the other hand, he says that he has very often heard most clear and circumstantial histories narrated in which blows were asserted to have been the primal cause of the trouble. The argument that men are more liable to blows on the breast than women, he disputes, stating that women are always in the way of getting knocks from young children or from

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articles of furniture, such as cribs, beds, etc., among which they are constantly working. Besides, the breast of a woman being so much larger and more prominent, it is much more exposed to injury than that of man. He states that he has "received very succinct accounts from intelligent women of blows from pieces of furniture or kicks from young children in which there was pain immediately afterward, sufficient to place the exact spot in the breast. Then the pain has gone away, they have almost forgotten the circumstance until some day a lump is found in the old site of injury." Banks believes that, if it were true, as has so often been stated, a woman's attention is directed to the tumor which is already lying concealed in her breast, she would discover it at once on receipt of the injury. The theory that the patients invent the story of previous injury, after finding a lump, he believes, is inconsistent with the high degree of intelligence of many of his patients." Roger Williams says that "in examining the histories of 137 women with cancer of the breast, 1 out of every 4 made a statement of previous trauma. In conclusion Banks says that "after the way in which the vulgar, but rooted belief in the infectiousness of phthisis of the Italian peasant has, in the light of modern discovery, triumphed over the contemptuous disbelief of the whole world of medicine, I am not disposed to abandon all belief in statements of women whom we will even admit to be anxious to find a cause for their malady. Constant repetition from different sources strengthens even a weak tale, provided the evidence be steadily in the same direction. I have investigated these stories too often not to feel that, stripped of all exaggeration, there is a distinct element of truth in them. Remember, I do not make any attempt to assert that cancers of traumatic origin are at all frequent, but I believe in the possibility, and, indeed, in the strong probability of their occurrence."

With reference to the influence of trauma upon tuberculous joint disease Banks states, "I am not one of those who look for a mechanical cause of cancer in virtually every case, but I venture to say that there is no practising surgeon in this country, who has much to do with joint disease, who does not recognize the immense importance of wrenches, blows and sprains in the production of early inflammatory changes in and about joints, which ultimately end in what is known as articular tuberculous disease. I was educated in exactly the opposite view, namely, that the tales which the mothers told about injuries to their children's joints were all nonsense, but I was forced out of this belief by the irresistible arguments of experience." He further adds that "one feels the more inclined to this view from the knowledge that acute traumatic malignancy is a well-recognized disease. Scattered throughout the medical journals are so many cases of its occurrence that no possible doubt can be entertained about its existence."

Sufficient evidence has been presented, I think, to prove the existence of definite histories of antecedent trauma in a large proportion of cases of malignant disease. It remains for us now to briefly consider whether or not there is any etiological connection between the injury and the development of the tumor. Numerous conjectures have been made in efforts to explain these facts. The theory of so-called constitutional diathesis has perhaps had the largest number of supporters, among whom may be mentioned Butlin, Barwell and many of the German surgeons. Butlin believes that the injury would be harmless unless occurring in a person having this constitutional diathesis. The theory of a local predisposition, which may be either inherited or acquired, is held by Virchow who claims that mechanical irritation or injury produces a specific disposition of the tissues for tumor development. Krönlein regards traumatism as of little significance, believing that the local predisposition is due to a defective embryonal development. Lowenthal whose careful study of 316 cases of sarcoma with a history of previous local injury makes his opinion worthy of consideration, believes that there is sufficient ground for assuming that external irritation or trauma may give rise to the development of a tumor and, therefore, that traumatism may be considered as a direct etiological factor in the development of malignant disease.

My own opinion as regards this relationship has not changed since the publication of my former paper. As I then stated, I believe that the relationship between antecedent trauma and the development of sarcoma or carcinoma can be most rationally explained on the theory that such tumors are infectious, or of micro-parasitic origin. The analogy between sarcoma and diseases known to be of infectious origin is very striking. The clinical evidence, aside from the bacteriological or pathological, points more and more strongly toward a specific infection as the cause of sarcoma. The similarity between sarcoma and tuberculous disease is so pronounced, not only as regards clinical symptoms, but also pathological characteristics, that trained pathologists not infrequently are forced to admit that they are unable to differentiate between a tuberculous tumor and a round-celled sarcoma.

Granting for the moment that malignant tumors are due to an infectious micro-organism—and I may add, the evidence in support of this theory is rapidly increasing—the explanation of the relationship between trauma and sarcoma becomes at once clear and satisfactory. We have simply to follow up the analogy between sarcoma and other lesions known to be of infectious origin, for example, tuberculosis, osteomyelitis and periostitis.

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We know that tuberculous inflammations of the bones not infrequently develop after an injury in children previously in good health. I have personally observed a number of such cases and so many have been reported, as Banks has pointed out, that there can be no doubt as to the etiological significance of injury in these cases. Any explanation that will apply to the causal relation between trauma and tuberculosis inflammation will apply to sarcoma. The most probable explanation would appear to be, that the micro-organisms exist latent in certain individuals, and under normal conditions they remain harmless indefinitely. The local trauma diminishes the vitality of the tissues and, hence, their resisting power, and the germs previously innocuous, gain a foothold and develop.

We know that it is possible to have suppurative periostitis from traumatism without any lesions or breaking of the continuity of the skin. The micro-organisms which caused suppuration must have been carried to the part by the blood, although the original starting-point of these micro-organisms we may not be able to locate accurately. The main conclusions to be drawn from the study of these cases are as follows:

1. Trauma is a very important factor in the causation of malignant tumors.

2. This relationship between injury and malignant tumors furnishes additional and by no means unimportant evidence in support of the infectious origin of such tumors.

The following cases are here reported as evidence bearing on the general thesis:

CASES OF ACUTE TRAUMATIC MALIGNANCY.

Case I.—Sarcoma of Femur.—T. B., forty-five years of age, male, blacksmith, without any hereditary history of cancer, was kicked by a horse on January 29, 1900, and sustained a small fracture of the lower end of the femur. The fracture was treated by the usual method of extension for a period of six weeks. As soon as the splints were removed, the patient noticed at the site of the fracture what he considered an abnormal enlargement, but the attending physician assured him that it was the usual callus which occurred during the repair of a fracture. This swelling, instead of diminishing in size, slowly increased and, finally, at the end of a few months became painful. About the middle of August, 1900, the bone at the site of the injury had increased so markedly in size that this, together with the increase in severity of the pain induced him to consult several other physicians. It was evident that a sarcoma had developed at the site of the injury. The patient saw me August 21, 1900, at which time physical examination showed the left femur to be two inches shorter than the right, and the patient was unable to walk without the aid of crutches. At the lower end of the femur there was a tumor about the size of a child's head, smooth in outline, firmly fixed and apparently originating in the bone. The joint was not involved. The skin over the tumor was freely movable and normal in character, although somewhat tense. The tumor itself was fairly firm in consistence.

The diagnosis of sarcoma of the femur being unmistakable, amputation at the hip-joint was

FIG. 1.

Case I.—Acute traumatic sarcoma of femur following fracture.

advised and performed by Wyeth's method, on August 29, 1900. Although the patient's general condition was not very good (he had a loud, well-marked systolic murmur). He made an uneventful recovery, the wound healing by primary union except at the site of the drainage-tube. The specimen of the tumor and the photographs which I present, prove conclusively that the tumor started at the exact site of the fracture. Several cases have been hitherto observed, and I have myself reported one, in which sarcoma developed at the site of an old fracture, but this is the first case with which I am familiar in which the tumor developed immediately after injury. In other words, this is a true example of acute traumatic malignancy.

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Case II.—Round-Celled Sarcoma of the Testis.—M. M., aged twenty-eight years, driver by occupation, with good family history. Early in January, 1900, the patient fell astride a bar, injuring the right testis. A swelling appeared at once and never disappeared. About a week after the injury, the patient noticed that it was increasing in size. There was no pain at first, but later there developed a dull, dragging pain. Two weeks after the injury the patient went to an outdoor patient department in this city and was tapped for supposed hydrocele. Nothing but blood, however, was found. A second tapping, a few days later, gave the same result. On February 8th, or one month after the injury, I saw the patient for the first time. Physical examination showed a tumor of the rignt testicle, the size of an orange, soft and even semifluctuating in consistence, symmetrical in shape. There was little or no tenderness. The diagnosis of hematocele, with the possibility of sarcoma, was made and immediate operation advised. Two days later I operated and found about four ounces of dark, grumous blood in the tunica vaginalis, and the testis itself was enlarged about three times its natural size. Believing the disease to be malignant, I removed the testis together with the cord well up beyond the internal ring, the canal having been opened as in Bassini's operation for hernia. The first examination of the pathologist pronounced the disease non-malignant, but later a more careful examination of a large number of sections showed it to be round-celled sarcoma. There was at this time no evidence of the trouble in the abdomen. Two weeks after leaving the hospital, the patient was admitted to Dr. B. F. Curtis' service at the Bellevue Hospital, with a large abdominal tumor. Exploratory incision was made on March 16th, or five weeks after the date of the first operation. A tumor, the size of a man's head, was discovered in the region of the right kidney. A portion of the growth removed for microscopical examination proved to be round-celled sarcoma. The patient died April 18th of progressive cachexia.

FIG. 2.

Case I.—Acute traumatic sarcoma of femur.

This case is one of the most remarkable illustrations of acute traumatic malignancy that I have observed. The sarcoma developed immediately after the injury in an organ, up to that time perfectly normal, and ran such a rapid course that scarcely more than three months elapsed between the time of the injury and death of the patient.

Case III.—Sarcoma of the Ischium.—W. M., male, aged twenty-two years. In the winter of 1896, the patient fell upon the ice, striking severely upon the tuberosity of the ischium. The next morning he was not able to use his leg, and did not regain this power until three weeks later. A few days after the fall he noticed a lump at the site of the injury; it was hard and fixed to the pelvic bone, and continued to grow slowly in size until the time of my first observation, June, 1898, it had become a large inoperable, spindle-celled sarcoma.

Case IV.—Sarcoma of the Cheek.—D. L., female, aged forty years; good family history. In June, 1897, the patient received a blow from a fist on the left cheek. A swelling appeared at once and never disappeared, but gradually increased in size. It seemed to be situated between the skin and mucous membrane, just beyond the angle of the mouth. In about eight months it had reached half the size of a hen's egg and was removed. The disease recurred in a few months. A second operation was performed and, in November, 1898, a third, for recurrence. No microscopical examination of the growth made, but the frequent recurrences and clinical characteristics proved it to have been sarcoma.

Case V.—Small, Round-Celled Sarcoma of the Groin.—G. S., male, five and a half years old. In spring, 1899, the patient fell, injuring the right groin. A few days later a swelling was noticed in the right groin, which was soft and grew with such rapidity that it was supposed to be an abscess. Incision, however, proved it to be a very vascular, round-celled sarcoma.

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The disease grew rapidly, and the patient died of exhaustion in April, 1900.

Case VI.—Sarcoma of the Thigh.— Mrs. T., aged thirty-five years, with good family history. In May, 1897, the patient fell from a bicycle, badly bruising her right thigh. A lump appeared at the site of the contusion at once and never disappeared, but after about a week the patient noticed that it was increasing in size, and consulted a physician. The tumor grew rapidly, and in December, 1898, had reached the size of a man's head. It had no connection with the bone, and evidently started in the fascia.

Case VII.—Osteosarcoma of the Left Humerus.—I. D., male, eighteen years old; family history good. In the winter of 1899, a brick, which had fallen from the height of three stories struck the patient a glancing blow in the right deltoid region. A short time afterward the patient noticed pain in the region of the injury, and a little later a swelling appeared which gradually increased in size and was firmly attached. It seemed to be part of the humerus. Removal of the humerus and scapula was successfully performed by Dr. Russell S. Fowler of Brooklyn, in March, 1900. Within six months the disease recurred at almost the identical location in the other humerus and grew with great rapidity.

(To be continued.)

THE AKOUPHONE AND ITS LIMITATIONS.

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MECHANICAL aids to hearing devised in past years have been many and varied. The most efficient were constructed upon some well-recognized principle of physiological acoustics and were intended to reach the labyrinthine acoustic terminals by concentrating and intensifying sound waves either through the external auditory meatus or by conduction through the bones of the head or face.

No one apparatus has been found applicable to every case and the latest production in this line proves no exception to the rule. In proportion to the number of really deaf people those resorting to mechanical aids are comparatively few in number. This seems to be accounted for by two factors, namely, the conspicuousness of these instruments and the intolerance of their aid by oversensitive acoustic nerves which are present in the great majority of afflicted individuals. The first is an objection which might be overcome by the cultivation of certain moral courage on the part of the patient while the second is a physical difficulty and as we shall see may prove a serious hindrance to the use of any mechanical aid based on the above principles.

The latest product of this kind is brought forward by Mr. Wilton R. Hutchinson, a young electrical engineer from the South, who has spent years of work and study in bringing the apparatus to its present stage of efficiency and has given us by far the most intense and powerful reproducer of sound and one whose possibilities exceed those of all similar devices.

Without going into a description of the mechanical construction of this contrivance, the details of which are for the most part trade secrets, the instrument may be considered as a telephone whose electric force is supplied by an ingeniously compact storage battery of six volts. The transmitter is fitted with one or a series of dome or funnel-shaped resonators for the purpose of gathering in and concentrating sound waves from all sources in its immediate neighborhood. Its receiver is so constructed that all sounds conducted to it are reproduced or retransmitted with such force and intensity as to produce a searching and sonorous wave of peculiar intensity and penetration which is magnified still more on account of the closure of the external auditory meatus by the instrument which is held so as to completely cover it. The nature of this wave which gives a saw tooth character to its tracing is not yet understood.

In ordinary use the storage battery is carried fastened at some convenient place about the body, while the transmitter or wave collector may be held in the lap or laid upon a table. The receiver is fitted with a handle of suitable length so that it may be held in close contact with the ear with its vibrating diaphragm directly over the external meatus. This receiver is to a certain extent under control and the intensity of its action adjusted either by manipulating the adjustment of the diaphragm or by means of a sliding switch on the handle and manipulated by the patient's finger.

This is the outfit ordinarily recommended for the partially deaf. When used at the opera or lecture its transmitting end is reinforced by adding an increased number of wave gatherers, its receiving end being adjusted as nearly as possible to the toleration of the patient's auditory apparatus. When used for the instruction of deaf mutes a special transmitter is used and the receiver again adjusted to the comfort of the subject's hearing apparatus.

Deaf individuals who seek mechanical aid for their affliction (commonly without the aid or advice of an aurist) come generally under one of the following headings: (1) Those whose membrane and ossicles are intact, but functionally embarrassed by sclerosis or injury while the nerve is yet free; (2) those whose conducting apparatus is embarrassed by the absence of the ossicles or the greater part of the tympanic membrane, the nerve remaining free; (3) those in whom there has been disease involving, but not wholly destroying the labyrinthine nerve terminals—deaf mutes; (4) those whose deafness is

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caused by destruction of the nerve function somewhere in its central course.

In the first class of cases we find in the great majority of cases flaccidity of the tympanic membrane and hyperesthesia of the acoustic nerve. The tensor tympani in such cases has no function and consequently fails to protect the hyperesthetic nerve terminals in the labyrinth against these new sound waves. Add to this the possibility of obstruction in the Eustachian tubes and we have with the receiver held close against the ear a condensation of sonorous waves of such intensity as to be practically unbearable. All noises in the immediate vicinity, such as the closing of a door or the shutting of a window, are here intolerable, and interfere with conversation in no uncertain way. To be sure the instrument is adjustable, but in these cases the nerve objects to the new stimulation even when at its lowest point of efficiency. It is well to remark in this connection that in some cases presenting a considerable degree of deafness, with symptoms of even labyrinthine involvement, such as vertigo and tinnitus, these alarming symptoms may depend upon purely mechanical causes and may wholly disappear after ventilation of the tympanum through the Eustachian tubes. Resort to any mechanical aid under these circumstances would be a serious mistake for such a patient.

When membrane and ossicles are both missing, and no involvement of the nerve is present, the patient being dependent entirely upon bone conduction, it would seem that the conditions were theoretically favorable for the use of the akouphone on account of the protection afforded the nerve terminals by the intervening bone. As a rule, however, such patients seldom resort to mechanical aids as they hear the loud voice fairly well.

In the third class of cases, which includes the deaf mutes, we find perhaps the greatest field for the practical use of this apparatus in teaching these unfortunates articulate speech. This was recently well demonstrated before the Otological Section of the Academy of Medicine, and judging from a single short lesson given to a deaf mute of eighteen years, who had practically never heard anything, it was easily evident that the articulation and even inflection of speech could be conveyed by these means to such individuals with a greater degree of success than has ever before been attained.

To the fourth class, with central lesions, no aid can be offered.

In judging the limitation of the akouphone as an aid to hearing the writer's opinions are as yet based largely upon theoretical considerations and upon the practical trial of a few cases of sclerotic middle-ear catarrh from his own and his colleagues' private practice.

This apparatus, although far and away the greatest resonator yet produced, is, from the aurist's point of view, still crude, its present method of application being a good deal like providing an arc light for an individual with failing eyesight without any regard to the conditions of his refraction or optic nerve.

It is to be hoped that the otologists everywhere will aid in developing and applying this apparatus according to the principles of their science to the end that its shortcomings may be mended and its possibilities extended.

In conclusion the writer would quote the following extracts from the pen of Mr. Alexander L. Pach which appeared in the *Silent Worker* for March. Referring to the akouphone or akoulalion he says, "To all the deaf who are able I would say, if you have a vestige of hearing and are able to make a personal trial of the appliance, not once or twice, but several times in succession, do not lose your head and forget that your sense of feel is something marvelous. Take into consideration that the noise children make when you are trying to read is so intensified that, though a hearing person might not mind it, it jars on you. . . . To all the deaf all over the globe who are looking forward to emancipation, I would say that there is hope that in time we may have a device that will enable us to hear, but that that time has not been reached."

29 West 36th Street.

CLINICAL MEMORANDUM.

PERFORATING GUNSHOT WOUND OF THE CHEST WITH FRACTURE OF BOTH BONES OF THE LEFT LEG AND LACERATED WOUND OF THE RIGHT THIGH: RECOVERY.

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THE following instructive case occurred in the service of Dr. Robert F. Weir at the New York Hospital and is published with his direct permission, as illustrating the value of free use of sedatives in such conditions.

History.—A. J. H., U. S., thirty-one years old, single, bicycle policeman, admitted to the New York Hospital December 11, 1899. Three years ago his brother was in an insane asylum for three or four months following an injury to the head, and was discharged cured. Now follows the trade of machinist. In his mother's family several generations ago there was insanity also.

Personal Past History.—Indefinite, excepting as to typhoid fever fifteen years ago; severe attack with relapses, gradual complete recovery without sequelæ. Moderate alcoholic,

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pronounced coffee habit. Always of nervous temperament. Early in June, 1899, suffered partial insolation; sick four days but hardly the same afterward; unable to stand heat, do hard work, sleep well; considerable mental anxiety and frequent severe frontal headaches with vertigo. These nervous symptoms did not abate after cold weather began.

Personal Present History.—Early in November, 1899, had persistent sleeplessness, while duties involved day work one week, night service the next. Hours for sleep were irregular and sleep when obtained not restful. Alcoholism is admitted by the family at this time, denied by the patient although he acknowledges having relied on alcohol in some form for support and taken more than was his wont. Became hyperneurasthenic, powerless to accomplish anything physical or mental, wretched digestion, very constipated, irregular bowels. Leading up to these conditions was the long strain of the Brooklyn Rapid Transit Company's strike, with extra work and irregular hours. Great exhaustion after it. Each officer was granted a five-day vacation, but that of the patient began December 5, 1899. His nervous state meanwhile became very bad. On returning from duty December 10th he had an attack of vertigo, unable to remember anything or obtain sleep, except after taking pills—not morphine—prescribed by the police surgeon.

The family describe the attempted suicide as follows: Arising December 11th, in a state of nervous excitement, he shot himself through the left chest; finding this effort futile, he jumped out of the window—third floor—upon an extension, rolled from this to the yard. He was admitted December 11th, at 7:35 A. M. Temperature 101.4° F.; pulse 116, small, thready, irregular. Respiration 30; profound shock, active delirium, abdomen flaccid, left chest less active than right. The ambulance surgeon administered Magendie's solution (♏ix) on reaching case and ♏v more in the reception ward with atropine sulphate, gr. $^1/_{100}$, strychnine sulphate, gr. $^1/_{20}$, and stimulating enema of whisky. Reached ward 7.45 A. M.

Physical Examination.—This showed wound of entrance fifth space, 3½ inches out, apparently just missing upper border of sixth rib and apex; wound of exit, eleventh space, 4½ inches out, on left side. Clothing and skin both burned about the former. Left chest limited in action, indefinite signs of fluid in infrascapular and infra-axillary regions. Pericardium not examined. Heart acting well. Abdomen slightly rigid, no distention. Simple complete Pott's fracture at left ankle. Large lacerated wound in the right thigh almost reaching the bone through the vastus externus and biceps, admitting probe upward about 6 inches, and almost accommodating the hand in its cavity.

Treatment.—Gunshot wounds were covered with 1-5,000 wet bichloride dressing; laceration irrigated clean, packed and covered with the same. Fracture left in temporary ambulance dressings. Strychnine sulphate, gr. $^1/_{30}$, every three hours hypodermatically. Atropine sulphate, gr. $^1/_{100}$, for respiration of 12 per minute or less. Heat to surface. Continuous hot rectal irrigation. Soon abandoned as seemed to disturb patient. Elevation of foot of bed. Nothing by mouth, except small quantities of cracked ice sucked through compress. At 3 P. M. examined by Dr. Weir. Abdomen rigid, distended, tender and tympanitic. Perforation of stomach suspected. Operative interference contra-indicated by general condition. Patient to be kept quiet absolutely with morphine.

Temperature during the first day, December 11th, rose to 104.6° F.; pulse ranged from 116-160; respirations 30-40. No food. Morphine (Magendie's ♏ xxix total). Slept little, but much quieted. General condition declining.

Second day, December 12th, nutritive enemata q. 4. h., were well assimilated. Very small quantities of boiled water by mouth. Urine negative. Examined by Dr. Weir and Dr. Bull, perforation of stomach with onset of peritonitis suspected. Operation contra-indicated. Ice-coil to abdomen. Boiled water stopped, replaced by small quantities of brandy and water, every half-hour. Magendie's solution, ♏ x total. No dressings as patient to ill to be disturbed. Remained quiet, sleeping at intervals. Dr. Peabody also saw patient during the day, concurred in probable diagnosis and treatment and established existence of fluid in left chest and probably pericardium in small quantity. Temperature reached 104° F. and above all day, falling, late in the night to 102.2° F., pulse 120-160, respiration 18-32.

Third day, December 13th, general condition much better. Enemata assimilated. Ice-cap to head for pain. Volkmann splint to leg. Thigh wound packed with iodoform gauze in bichloride, 1-5000 solution; changed later to large Mikulicz dressing of sterile gauze in Thiersch's solution and covered with rubber tissue. During the night patient drank copiously from the ice-coil tube in spite of attendants. No bad results. Hence diagnosis of gastric perforation abandoned and mouth feeding began; clear soup, ʒii, q. 2. h. cracked ice and boiled water allowed. Total Magendie's solution, ♏ xxiii. Temperature 100.6°-102.2° F.; pulse 102-140; respiration 20-32.

Fourth day, December 14th, generally stronger, much better. Mouth feeding increased, rectal feeding, every six hours. Heat to surface stopped. Nitroglycerine, every three hours, gr. $^1/_{50}$, hypodermatically. Dressings as before. Slept fairly well and long. Total Magendie, ♏ x. Temperature 101°-102° F.; pulse, 96-120; respirations 24-28. Slept well at intervals.

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Fifth day, December 15th, signs of peritonitis disappearing. Ice-coil stopped. Treatment otherwise the same. Magendie's solution, total ♏ xiii; slept well. Much improved. Temperature 101°-102.4° F.; pulse 96-120; respiration 24-28. Dressings same.

Sixth day, December 16th, large sloughing mass removed from thigh; 1-100 carbolic acid wet dressing applied. Full fluid diet. Rectal feeding stopped. Temperature 100.6° to 101.8° F.; pulse 92-116; respiration 20-24. Sleeping much better and for longer intervals. Total Magendie's, ♏ xviii.

Seventh days, December 17th, all conditions same. Slept very little, Magendie's solution, total, ♏ viii. Temperature 100.4° F. to 102° F.; pulse 84-100; respiration 16-32. Still gaining.

Eighth day, December 18th, irrigation of thigh wound begun, otherwise dressing the same. Morphine, gr. ¼; codeine, gr. i; trional, gr. xx, as sedatives, slept quite well. All other conditions about the same. At no time was there hematemesis or hemoptysis. The management of the pistol-shot wound was daily changes of the wet dressings, followed by dry sterile dressings and aristol powder. Neither wound suppurated. The entrance cast off a few small sloughs. Otherwise they healed promptly. The laceration was treated in the usual way, and healed well after two abscesses developed in the thigh high up. The fracture united in good position and with full function after the usual plaster splint.

Skin grafts on the thigh wound were made January 15th; one-half succeeded. The wound healed fully leaving function fair. The patient was allowed to sit up, on chairs, on January 27th, and February 10th (about) was permitted to use crutches. He was discharged May 8, 1900, cured.

Heart, pericardium and abdomen negative, left chest showed few signs of thick pleura. Right thigh had a small sinus persisting. Throughout the acme of the condition enough sedatives, morphine, etc., was given to procure absolute quiet and to remain just within actual deep sleep. The patient could be aroused for his medication, but otherwise was indifferent to his surroundings though not really asleep. This forced quiet appears to have saved his life.

MEDICAL PROGRESS.

Ice-Bags in Lobar Pneumonia.—George L. Collins (*Boston Med. and Surg. Jour.*, March 28, 1901) reports in detail nine cases of lobar pneumonia in which cold was applied by means of ice-bags. He summarizes the cases as follows: In only one case did the ice-pack cause discomfort. In not one case was the crisis accompanied by dangerous collapse. The ice-pack was used to abort cases just beginning, in cases with well-marked signs, and in cases showing resolution. Accompanying signs of bronchitis were not considered contra-indicatory. The indication for the use of the ice-pack was in each case high temperature, and not physical signs. The ice-pack was removed only when the temperature became lower. The average fall of temperature was 4.5° F. This fall occurred in all but one case within forty-eight hours after applying the ice, in most cases it was within twenty-four hours. The white corpuscle count invariably began to fall with the temperature, and reached normal in about one week after the temperature became normal. The ice had no effect apparently upon the physical signs.

Malignant Syphilis and Zittmann's Decoction.—In very malignant cases of syphilis that prove rebellious to the influence of mercury or the iodides Granville MacGowan (*Jour. Cutaneous and Genito-Urinary Dis.*, March, 1901) recommends the use of the decoction of Zittmann. He reports, in detail and with photographs, a case in which this decoction was very efficacious. In the preparation of this decoction the writer follows the original formula. The decoction spoils easily and should be kept in an ice-chest. The following formula is for enough to last for from six to ten days. Bruised sarsaparilla root ℥iv, water ℥ 280; (Package No. 1) Fennel seed, anise seed, aa grs. 80, liquorice root (cut), senna leaves, aa ℥ss. Digest the sarsaparilla root in water for twenty-four hours, then add package No. 1, and bring to a boil, while suspended in it in a linen bag is: (Package No. 2), Powdered alum, powdered white sugar, aa ℥ii, calomel grs. 80, cinnabar, grs. 20. Boil gently until the quantity is reduced to a gallon, or a little less, then strain through a fine cloth, and put up in bottles holding a little more than a pint each. Label this: Zittmann's Decoction, No. 1. To the dregs of this decoction add the contents of package No. 3, consisting of cardamon seeds, cinnamon bark, liquorice root, aa ℥i. Pour in ℥ 280 of boiling water, and cook to a gallon. Strain, and bottle as before. Label: Decoction, No. 2. The writer directs that both the stronger, No. 1, and the weaker, No. 2, be given each day, the first for its purgative and diaphoretic effect, the second for its diuretic properties. The taste of these mixtures is not very nice, but the nausea caused by them, when given in large quantities, can be overcome. MacGowan uses these as follows: The patient takes a light breakfast at 7 A. M., and at 9 A. M. four ounces of the stronger decoction as hot as he can drink it. This dose is increased one or two ounces each day until he is taking as near a pint as he can without vomiting. This dose will purge the patient two to four times a day. He has a light lunch at 12.30 and at 3.30 P. M., while in bed, takes from half a pint to a pint of the weaker decoc-

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tion, cold. Later the patient has an alcohol rub, and at 6 P. M. a good dinner, without any green vegetables or fruits. No mercury or other drug is used while the decoction is being given. Early in the second week the improvement will begin to be visible. In the fourth or fifth week the patient will be on the highroad to recovery. When the patient's nails and ear lobes are pink, and the eye clear, mercurials can be employed to finish the cure.

Bottle in the Rectum.—W. M. A. ANDERSON (*Brit. Med. Jour.*, March 9, 1901) reports a case in which a glass bottle was found bottom upward in an adult rectum. He prepared to do a posterior median proctotomy back to the sacrum and coccyx in order to remove it, but first tried traction with a uterine ecraseur, whose wire had been bent to a right angle with its axis. At first the bottle did not move. On exploring with the finger he found that the concave bottom was acting as a sucker and resisting. When air was admitted beyond it, the bottle slipped out. Passed in with the aid of much vaseline, the bottle was of such size as to fill the bowel and cause great pain.

Ethyl Chloride as an Anesthetic.—W. J. MCCARDIE (*Lancet*, March 9, 1901) says that ethyl chloride has the following advantages as an anesthetic in minor surgery and some of the shorter procedures of major surgery and gynecology, such as involve anesthesia for about thirty minutes or less: (1) Rapidity of its action and (2) of its recovery, each being about two minutes, (3) almost total absence of after effects, (4) safetv in cardiac, renal and pulmonary disease when ether and chloroform are contra-indicated or dangerous. Its main disadvantage is that except in children muscular relaxation is not marked and rigidity may be present to a great degree. The Brener mask obtainable in Vienna is the best for its exhibition.

Recent Notes on Treatment of Diphtheria.—FENN of Manchester, in the February number of the *Journal of Laryngology*, gives a chapter of notes reviewing recent papers on the treatment of diphtheria. Eyre has found in milk supplied to a school the short pathogenic or sheath variety, as well as the Klebs-Loeffler bacillus; and Macfarden and Hewlett found bacilli in the throats of pigeons identical with the Klebs-Loeffler bacilli except as to their pathogenic and toxic properties. Richardière and Tollemer found virulent bacilli floating in dust of the air in a diphtheria hospital and which had not been disinfected for several weeks. They were absent after disinfection. Trevelyan found diphtheria bacilli in cases of stomatitis with membrane without general symptoms. The value of antitoxin is now generally admitted by the medical press by both statistical evidence and clinical observation, in both hospital and private practice. In Queensland the death-rate in five antitoxin years is little more than one-third of previous records. In Chicago of 4,071 cases in three and a half years treated with antitoxin only 6.77 per cent. died. In the Children's Hospital at Brisbane, there was reduction of mortality from 42.2 per cent. to 12.6 per cent. Goodall shows that in the Metropolitan Asylums Board Hospitals for 1896 and 1897 a high mortality of 50 per cent. was reduced under antitoxin to 5 and 4.1 per cent. for these two years. The most forcible objection to statistics is their inclusion of cases only bacteriologically recognized as diphtheria. This cannot hold for laryngeal cases. In these latter, whose diagnosis is the same as before, under antitoxin treatment there is less need for tracheotomy. The mortality in hospital cases has been reduced from two-thirds to one-fourth of the cases operated on. Goodall says: "Whereas, in the pre-antitoxin days of 100 tracheotomies you could not expect to save more than 29, now you can expect to save no fewer than 53; of laryngeal cases not operated on, in those days not more than 48, now not fewer than 75; of all cases (operated on or not), then not more than 34, now not fewer than 49." There has been a tendency to increase the dose of antitoxin. Turner has given 6,000 to 12,000 units for a dose. Biernacki in one case gave two doses each of 18,000 units within fourteen hours. "Antitoxin should be given for effect, and most assuredly not for specified doses." All evidence calls for early administration. In the 4,071 cases treated in Chicago, the mortality of those treated on the first day was only 0.28 per cent., of those treated on the fourth day 11.39 per cent., of those treated after the fourth day 25.37 per cent. Statistics of Goodall and Turner teach the same lesson. Tonkin in 200 cases found mortality 3 per cent. for those treated in first three days and 12 per cent for all the other cases. Post-diphtheritic paralyses have increased since introduction of antitoxin. This is explained by the survival of serious cases which in the pre-antitoxin days would not have lived. The type of paralysis has become on the whole less severe, at all events less fatal. Goodall states that of 1,580 cases of paralysis after antitoxin treatment, only 5.7 per cent. belonged to those treated on the first day, and 10.1 per cent. to those treated on the second day, and "only one case of severe paralysis occurred among those treated on the first two days with no death from paralysis, whereas 51 severe cases and 3 deaths from paralysis occurred among those who were not brought under treatment till the fourth day or later. . . . There is some evidence that large doses, *i.e.*, not less than 4,000 units of antitoxin, are more effective than small ones, both in preventing paralysis and in reducing the mortality due to it." Antitoxin reduces the likelihood of the occurrence of nephritis. With early treatment albuminuria may not appear and will soon disappear. At the Brisbane Hospital local throat treatment has been abandoned. Bolton found bronchopneumonia.

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nephritis and other inflammations and also sudden death follow injection of antitoxin, but nothing of this kind has occurred in the London hospitals. He believes the incidence of albuminuria is increased by antitoxin, but the condition is transient and slight. "The complications of antitoxin are at times very painful and inconvenient, but quite harmless." Causes of failure are, as given by Trevelyan, (1) its too late administration; (2) its sufficient dosage and strength; (3) presence of mixed infection. The controversy as to the utility of antitoxin is well-nigh closed, and "those practitioners who neglect or refuse to use this remedy in suitable cases are in so doing assuming a grave responsibility."

Non-Operative Cases of Acute Mastoiditis.—GORHAM BACON (*Archives of Otology*, February, 1901), reports the histories of forty consecutive private cases of acute purulent otitis media complicated by acute inflammation of the mastoid cells. Radical operation was necessary in 10 cases. In 2 of these 10 a subsequent operation for sinus thrombosis, one proving fatal. In 30 cases, or 75 per cent., the mastoid cells were not opened. The patients varied from six to sixty-five years of age. A great many cases of mastoid disease can be cut short in the first stage, if, instead of administering opiates to relieve the pain, or perhaps phenacetin or quinine to reduce the temperature, we apply leeches at once." A leech, natural or artificial, is best applied just in front of the tragus. Patient should be put to bed with little to eat, calomel given and tincture of aconite in drop doses, if high fever. If the mastoid process is tender on pressure, the Leiter coil should be applied and the cold should be kept up for at least forty-eight hours. Meanwhile, as soon as there is bulging of the drumhead "a free incision should be made in the membrane along its posterior border, from a point behind and below the stapes to the lower border of the drumhead, and close to the bony canal. . . . In all cases of scarlet fever, measles, diphtheria, influenza, and especially when the infection is due to the streptococcus or pneumococcus, it is advisable to make an early incision in the drumhead." After this douche the ear frequently with a warm boracic-acid solution (℥i to ℥viii), or bichloride (1 to 3,000), to promote the discharge. A free incision should be made where the spontaneous rupture is too small. Sometimes, even when operation on mastoid seemed imminently unavoidable, a further free incision has decided the recovery without further interference. The writer is not opposed to the mastoid operation, but finds he has fewer cases requiring it since he has adopted this plan of treatment. If, after employing above treatment and finding that the temperature remains elevated after a profuse discharge, there is still tenderness over the mastoid, then operation upon it may be unavoidable. This is all the more likely to be the case with streptococci and pneumococci in the pus from the tympanum. The lungs should be examined for pneumonia. Strict and daily watch should be kept for first indications for opening the mastoid whilst doing all possible to avoid that step.

Sexual Irritability of the Male.—It is said that 25 per cent. of all men are at some time affected with what is called sexual irritability. A. SANDER (*Indian Med. Rec.*, Jan. 30, 1901) divides them into three classes; one belonging to the lithemic type, being usually fair, large stature, flabby muscles, and although appearing healthy their powers of elimination are defective and their urinary tract is thus irritated. The second class is the nervous type, inclined to a great variation of emotional excitement. Their sexual desire becomes an uncontrollable factor like various other impulses of their unstable nervous system. The third class comprises those in which gonorrhea has been the efficient cause. For the first and second classes the first requisite is a moderate and regulated amount of exercise, such as walking in the open air. The lithemic are frequently benefited by considerable exercise while irritability may be kept up by undue physical exercise on the part of the "neurasthenic." The diet of the lithemic should be principally of fruits and green vegetables—avoiding too much meat, coffee and alcohol. Fish and poultry are good. To aid elimination he recommends:

℞ Sod. et pot. tartrate.....60.0 (℥ij)
Pot. tartrat. acid.....30.0 (℥j)

M. et. Sig. One teaspoonful in water each morning.

To allay the sexual passion of the neurasthenic one-dram doses of fluid extract of salix nigra one-half hour before retiring are usually effective. As a nerve stimulant arsenic in combination as:

℞ Fowler's solution ..... 4.0 (℥j)
Fl. ext. ergot..... 12.0 (℥iij)
Tr. capsici ..... 0.8 (♏x)
Glycerine ..... 30.0 (℥j)
Aquæ .....240.0 (℥viij)

M. et Sig. Half an ounce three times a day after meals.

Arthritic Edema of the Eyelids.—These transient edemas which come on without warning, last a few hours, then disappear to come again in the same way, without coincident fever, albuminuria, or cardiac lesion are usually attributed to anemia, scrofula, angioneurotic phenomena, nervous explosions, etc. GAILLARD reported two cases, one following an attack of peliosis rheumatica, the other just preceding an attack of true articular rheumatism. A. TROUSSEAU reports five cases (*La Presse Méd.*, Mch. 6, 1901) four in young girls in whom each appearance of this edema was followed by acute articular rheumatism, and the other in a man of forty-two years, afflicted with gout. He has seen the edema alternate with that of other regions especially of the genitals, and with other skin manifestations, erythema, eczema, etc.

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Active Principles of Digitalis.—There seems to be an almost hopeless confusion about the relative values of the various glucosides of digitalis. One difficulty arises from the fact that the German preparations are derived from the seed, while our official drug is the leaf. J. W. ENGLAND (*N. Y. Med. Jour.*, April 6, 1901) says that digitoxin is extremely irritant, frequently producing abscesses when used hypodermically and requires several hours to produce its effect. He has prepared a "tincture of fat-free digitalis" made by exhausting freshly-ground digitalis leaves with pure benzin, percolating with diluted alcohol and neutralizing with ammonia water. All the proximate principles are made soluble in water and not partly so as in the official tincture. This is an important feature for all compounds must be made water-soluble before they can be absorbed. Experiments have shown that this preparation acts quicker than the ordinary tincture, in from fifteen to thirty minutes, and hence is considered a more valuable mode of administering the active principles of digitalis. Digitoxin usually requires five to six hours, to produce cardiac or renal symptoms and is very slowly eliminated and hence is not looked upon as the most valuable therapeutic principle of digitalis.

THERAPEUTIC HINTS.

Acute Articular Rheumatism in Children.—In children the salicylates must be used sparingly and are best given in large doses continued for only a short time. Used thus they may give prompt relief, but both stomach and heart must be watched. Rest in bed is the only safeguard against endocarditis, and when this is established opium should be used in small dose. Alkalies should follow the use of salicylates. For the extreme anemia peptomangan and open-air exercise of such a nature as to strengthen the heart are indicated.—*F. C. Simpson, in Pediatrics,* April 1, 1901.

Alcohol for Children.—In the acute infectious diseases, the nutrition is maintained by the power of alcohol to prevent nitrogenous waste, animal heat is regulated by opening up the peripheral circulation, and the energy which is depressed not lost, as from the heart weakened by fever, is restored. Especially in those bad cases of diphtheria with sepsis or bronchopneumonia, or the septic nasolaryngeal cases in which antitoxin is of little avail, whiskey in conjunction with iron and mercury to give support, not stimulation, will directly save life.—*A. E. Bieser in Pediatrics,* April 1, 1901.

Antistreptococcus Serum. — LABUSQUIÈRE (*Annales de Gynécologie et d'Obstetrique,* March, 1901) reports twelve cases of puerperal infection treated by Blumberg with the serum of Marmorek. In nine cases the lochia was examined bacteriologically. One severe case showed pure culture of anaerobic diplococci, no immediate result from injection, but subsequent cure. Case II. showed bacilli streptococci, and other cocci, and the patient died. Case III. had been seven weeks ill, and the lochia contained bacilli and anaerobic streptococci. This patient also died. In Case IV. with mixed infection the temperature began to fall the day after the injection, and was normal on the third day. Case V. was of mixed infection and, though ill for four weeks was apparently cured by one injection. Cases VI. and VII., with sterile lochia, the one having been ill for five days, the other for thirty-nine days, responded promptly to the serum. Cases VIII. and IX. gave pure streptococcus culture, the one responding directly to 20 grams (5vj) of serum, relapsing when the serum was discontinued after two injections, and progressing to recovery when the injections were resumed, the other showing no immediate change of symptoms, or fall in temperature, but gradually recovering. In three cases no bacterial examination was made and all were cured, though in one the injection was not used until the temperature had begun to break. A diffuse erythema, or a painful, red erysipelas-like area about the site of injection sometimes appeared, and in one case an erythema multiforme. The injections caused no albuminuria, but were followed for a single day by a good diazo-reaction.

Pneumonia and Empyema.—When pneumonia is complicated by empyema before resolution has taken place, PHILIP MARVEL (*Therapeutic Gazette,* March 15, 1901) advises against evacuation till the crisis has passed, unless the embarrassment to the breathing and circulation or evidence of danger from the toxemia should be such as to render relief imperative.

Silver Salts in Nasal Catarrh.—E. B. GLEASON (*Therapeutic Gazette,* March 15, 1901) recommends for atrophic rhinitis, spraying the nose once or twice daily with Dobell's solution, and sniffing up every four hours a little stearate of zinc containing gm. 0.065-0.13 (gr. j-ij) of silver nitrate to each gm. 4.0 (5j). For exuberant granulations, searing the stumps of polyps, etc., the nitrate of silver is too irritating, and the organic compounds should be preferred. If, however, a 12-per-cent. solution be painted upon inflamed tonsils and the inflamed lateral wall of the pharynx, a sense of great comfort follows. Painting thus two or three times a day is one of the best methods of aborting acute pharyngitis and tonsillitis, any affected tonsillar crypts having first been freed of pseudo-membrane. Hay-fever and nasal hydrorrhea are best treated locally by a spray of adrenalin, 1-5,000, or of 10-per-cent. aqueous extract of dried suprarenal every two hours or by pledgets of cotton soaked in the solution and placed within the nose.

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A WEEKLY JOURNAL

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SATURDAY, APRIL 13, 1901.

DELAYED WIDAL REACTION AND TYPHOID RELAPSE.

The Widal test has not entirely fulfilled the hopes held out by its discoverers. Certain cases of typhoid fever even in Widal's own hands failed to give the characteristic reaction though typhoid bacalli were afterward found in blood withdrawn from the patients' spleen. On the other hand the blood of the normal individuals and of some patients suffering from diseases other than typhoid fever, and without typhoid fever in their histories, has proved to be possessed of the agglutinative power. These reported pseudoreactions, however, grow fewer and fewer in number as the exact conditions necessary for the proper accomplishment of the test come to be better understood and are more perfectly complied with.

Widal's reaction is, however, a most useful diagnostic auxiliary and as it has come to be employed more and more, it has proved to be of value in originally unanticipated ways. Certain affections that clinically bear not the slightest resemblance to typhoid fever and were not suspected of being even remotely connected with it have been proven recently to be due to the typhoid bacillus. Pneumonias, and meningitis constitute the most important types of these extra-intestinal typhoid fevers that have been running their course often to a fatal termination without a suspicion of their true bacterial origin.

One of the most inconvenient properties of the Widal test has been its tendency to give negative results in certain cases until very late in the disease. Sometimes the presence of the agglutinative power in the blood cannot be demonstrated until convalescence has been established or even until a normal temperature has existed for some time. The reason for this delay in the development of the characteristic agglutinating property is not understood. Of course there are many other things about the Widal test that are but ill understood and the problems involved demand serious study with the promise of fruitful results. When Widal first proposed the test he said that he was not decided himself as to whether the agglutinating power of the blood serum of typhoid patients was a manifestation of infection or immunizing reaction. From the frequent occurrence of the reaction in the early stages of the disease—the second week and sometimes earlier—he seemed inclined to consider the agglutinative power a phenomenon of infection.

Later the trend of opinion has been toward classing agglutination as a protective reaction —a manifestation of bactericidal power. Recent observations on the protective power of mother's milk would seem to confirm this view. The young of animals born from mothers, in whom artificial immunity to the influence of certain bacteria has been produced, are not immune by the fact of birth. If suckled by immune animals, however, they often acquire immunity. This immunity may not last for more than a few days after suckling ceases. It is well known that the power to produce agglutination of the typhoid bacilli may be conveyed through the milk of a mother in whose blood the reaction exists as the result of a past attack of typhoid fever. The reaction ceases to be present, however, in the blood of the child very soon after nursing stops. It endures at most for a week or two. In this there is a striking analogy to the artificial immunity to microbic action which is conveyed by the milk.

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If we assume, then, that the Widal reaction is a manifestation of beginning immunization of the organism to the disease it will be readily understod that the delay in the appearance of the agglutinative power in the blood serum means the failure of the attacked organism to react in time for its own protection against the typhoid bacillus. In a number of reported cases the occurrence of the Widal reaction late in an attack of typhoid fever has been followed by a relapse of the disease. The organism had not at the end of an ordinary attack of typhoid fever sufficiently immunified itself to protect it from germs that invaded hitherto unaffected intestinal follicles.

This subject is as yet in need of investigation. The Widal test is by no means simply a positive or negative answer to the question, is typhoid fever present? It may prove to be a valuable prognostic measure that will point out the failure of immunization and the consequent danger of relapse. Its practical importance from this standpoint can be scarcely exaggerated. A delayed Widal reaction will be the indication for exercise of the greatest care in the resumption of ordinary diet. Relapses will not come as the surprise they have been heretofore and the practitioner will realize during the course of the first attack the necessity for the conservation of the patients' strength.

DEATH OF THE CHRISTIAN SCIENCE BILL.

THE Chrstian Scientists are audibly giving thanks for the power of prayer, and secretly for the power of the dollar. Seldom has lobbying been more persistent and more to the point than in the suppression of Mr. Bell's Anti-Christian Science Bill. And for good reasons; a business like that of Mrs. Eddy's is not to be lightly given up, nor a profession so easily acquired as that of the healing art by absent treatment to be set aside for the lack of a little judicious guidance in the lobby.

Had the medical societies been a little more alive, and a little less argumentative they might not have raised so many objections, and the bill might have gone through. As Mr. Bell said in explanation, "The New York County Medical Society and the New York County Medical Association diagnosed the case differently, and while they were quarreling among themselves, refusing obstinately to call into consultation legislative experts, the patient expired."

The trouble lay partly in the fact that no one knew just how to word a bill that would give every competent physician and druggist the right to carry on his profession, and at the same time put an end to the impostures of quacks of all grades. The element of faith and religion, that is so often the only impressionable component of a woman's mental caliber, stands out against the element of justice and common sense that characterizes most men in the medical profession. It is impossible to legislate emotions out of a woman, but it would not be impossible to protect, by a legislative act, the community from the effect of these emotions. To do this our fellow physicians, even at the risk of being thought unethical, must do battle with the absurdities that are being taught, and give lectures and write and generally express themselves on the subject of their profession. Dr. A. H. Smith and Dr. A. Jacobi, in discussing the "Duty of the Public to the Medical Profession" at the Academy of Medicine last week, both took the same stand as Dr. Lydston, whose paper was published in the MEDICAL NEWS of April 6th, that the medical man can help the public and the profession at large by bringing them into closer relations, and by educating the people to a correct appreciation of the merits of scientific medicine.

A PLEA FOR PROFANITY.

As Dr. John Brown finds a saving grace for little Marjory Fleming in the lack of the final "*n*" in her Dam! so Professor G. T. N. Patrick finds an excuse for mankind at large in the matter of profanity, by running it down to its primitive origin.

In his article, "The Psychology of Profanity," in the March number of the *Psychological Review*, the history of the race shows that most profane ejaculations are the fossil remains of religious terms or ejaculatory prayers, and that the history of profanity is bound up with the history of religion. That this has always been considered a deplorable state of affairs is shown by the punishment prescribed from the days when it was death in the Levitical law, till in the seventeenth century it was twelve-pence an oath in England. In those days "Goddam" was a mere nick-name for an Englishman, proving the inefficiency of legislating on matters of personal morals. The simple feeling that swearing is poor taste has made swearing unfashionable; but has not so eradicated the tendency, but what Pro-

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fessor Patrick has found material enough to work out the answer to these two questions, "Why do men swear?" and "Why do they use the words they do?"

People swear when they are provoked, or angry, or surprised, or hurt, and it has been observed that the most dangerous men are not the hardest swearers. Where there is great emotion accompanied by great helplessness men swear. Philology shows us that swear words are the old forms of spoken language, and physicians find that in progressive aphasia profanity is often the last form of speech to be lost. Evidently, then, profanity is an ancient and deep-seated form of expression.

So far do the psychologists agree; but when it comes to the *why* of swearing they hold different opinions. Some hold that the emotion of anger necessitates the escape of the surplus nervous energy, and that when one inhibits the natural and primitive impulse to battle, this energy bursts forth through the organs of speech in the form of oaths. As such profanity is supposed to have a purifying effect on the system just as a "good cry" relieves the tension of anger.

Others hold that profanity is but a series of steps from the growls of animals who are in terror and who wish to strike terror. The angry primitive man tries to shock his enemy by calling on thunder and gods, and the angry modern man consigns him in tones of awful wrath to eternal punishment. When one gets a German accumulative oath like *Alle Weltkreuzmohrentausendhimmelsternundgranatensakrament,* one wonders who could stand before it. From the shock of terror there came the shock of temerity in taking holy names in vain, so that the greater the reverence of names of saints, or places, or deity, the greater is the shock to the man sworn at and supposedly the greater the relief to the man swearing.

WATER WAYS AND CONTAGIOUS DISEASES.

The inauguration of a suit in chancery about to be brought by the Passaic Valley Protection Association for the monumental sum of $10,000,000 against the city of Paterson calls attention to an important sanitary problem and to its medico-legal aspect.

For years the city of Paterson has been dumping its sewage, without modification, into the Passaic River where it has been carried to many towns below it and three given rise to numerous cases of typhoid fever. The citizens living along the banks have therefore made themselves into an association for mutual protection and, by claiming extensive damages, hope to be able to compel the city of Paterson to take proper care of its sewage.

It would appear that in this enlightened era of sanitary science and humanitarian doctrines it should not be necessary to resort to legal means to compel a city to protect its neighbors, but corporations are said to be lacking in consciences and municipalities may need the sting of heavy damages to pay in order to compel them to make concession to the rights of others.

We commend the Passic Valley Protection Association in their action and trust that in the righting of their wrongs others, suffering similarly, may profit.

ECHOES AND NEWS.

NEW YORK.

Society of Medical Jurisprudence.—At the 158th regular meeting of this society, held Monday, April 8th, Dr. J. B. Huber read an interesting paper on "Faith Cure and the Laws."

Rochester Academy of Medicine.—The regular meeting of the Section on Surgery was held April 10th. Drs. Henry H. Covell, George E. Beilby, Edward W. Mulligan and Henry J. Williams presented interesting cases, and Dr. John W. Whitbeck read a paper on "Cancer of the Pylorus."

State Charity Board.—It is announced authoritatively that the bill to reorganize the State Board of Charities has been abandoned by its supporters. It was drafted and introduced at the instigation of Governor Odell, who, it is understood, has consented not to have it pressed, in view of the excellent reasons advanced by important and responsible interests, urging a continuance of the existing administration of the State's charities.

Reprint of Ephemeris.—For a number of years Dr. E. H. Squibb of New York has made a résumé of the modern advances in materia medica, pharmacy and the collateral sciences. This has been printed from time to time with other matters of cognate interest as the Ephemeris. This year No. 3 of Vol. 6 has been reprinted and termed the *Supplement to the State Medical Association Journal.*

Clinical Lectures on Hydrotherapy.—The trustees of the Riverside Association announce that the Medical Director of the Hydriatic Department, Dr. Simon Baruch, will give a course of lectures on Practical Hydrotherapy, on Thursdays at 2.30 P.M., at the Association

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House, 259 West 69th street. The course is free to the medical profession.

New Anti-Hypnotism Bill.—The Senate Committee on Public Health reported on April 4th a substitute for the bill of Senator McCabe to regulate the practice and teaching of hypnotism, mesmerism, suggestive therapeutics, and other kindred practices. The substitute relates only to hypotism and mesmerism, and provides that any person who practises these who is not a duly licensed physician or graduate from an educational institution for the teaching of such practice, duly licensed by the Regents of the State, shall be deemed guilty of a misdemeanor.

The Doctors and the Vice Crusade.—Seven members of the County Medical Society have been appointed a committee to investigate the evils of prostitution in the tenement-houses from a physician's point of view. The committee consists of Dr. P. A. Morrow, Dr. S. A. Knopf, Dr. H. D. Chapin, Dr. C. W. Allen, Dr. L. D. Buckley, Dr. Ludwig Weiss, and, ex-officio, Dr. George B. Fowler, President of the society. It met for the first time on Thursday evening and organized with Dr. Morrow as its Chairman. After its work is further under way, it will communicate with the Committee of Fifteen; but its investigation will be wholly along lines which concern the physician as a practitioner.

Home for Scientific Alliance.—Plans have been drawn and a subscription of $25,000 has been received for a building intended to house the allied scientific bodies included in the Scientific Alliance. The plans contemplate a building costing $300,000 built upon a plot costing $200,000. The building is intended to furnish facilities for original research and for the proper housing of the valuable libraries of the various societies which are now scattered. There will be an adequate lecture room and meeting rooms for the different bodies in the alliance.

Elmira Reformatory Superintendency.—There is a bitter fight on for the Superintendency of the Elmira Reformatory. Dr. Frank W. Robertson is at present Acting Superintendent. If Patrick J. McDonnell, at present Assistant Superintendent of the reformatory, has his way, however, Dr. Robertson will be ousted very soon. Mr. McDonnell, before he came to Elmira to accept a position at the reformatory, was head keeper of the Erie County Penitentiary. A short time after Mr. McDonnell arrived at the reformatory, Dr. Robertson, it is stated, became jealous of his assistant. The Assistant Superintendent is a man who has had quite a deal of experience in handling criminals, while Dr. Robertson was initiated into prison work at the Elmira Reformatory. Dr. Robertson, before he came to Elmira, was attached to Bellevue Hospital as a physician. Dr. Robertson's home is in Owego, also the home of Senator Thomas C. Platt. Dr. Robertson is on friendly terms with Senator Platt, and it is owing to the Senator's influence that the Doctor was enabled to secure a position at the reformatory. As the story goes, Dr. Robertson's jealousy of Assistant Superintendent McDonnell grew daily. The Assistant Superintendent has his eye on the superintendency, and Dr. Robertson knows it. Both men have been pulling all the political wires in sight to accomplish their ends. Dr. Robertson has the backing of Senator Platt, but the Assistant Superintendent is said to be in favor with three of the Board of Managers of the reformatory.

New Smallpox Hospital.—The request of the Board of Health for authority to expend $10,000 in the construction of a new hospital for contagious diseases on North Brother Island was taken up at a recent meeting of the Board of Aldermen and was defeated by a vote of 41 to 9, a vote of 45 in the affirmative being necessary to carry it through. All the Tammany men were in favor of the resolution, and Mr. McCall, the majority leader, said in a speech that unless there was relief at the contagious diseases hospital soon some of the patients would be obliged to sleep out of doors.

The Adulteration of Milk.—There are now pending before the courts in the various cities of the State, says the *New York Times*, a dozen or more cases brought to test the constitutionality of the provision of last year's law prohibiting the use of preservatives in milk. Among these cases is one against John S. Bieseker of New York City. This case was recently tried before the Appellate Division, and the law against the use of preservatives was declared unconstitutional. An appeal in this case has now been taken by the State to the Court of Appeals. Bieseker was represented by Herbert R. Limburger, who argued that if the law was sustained a man could not mix a milk punch without being guilty of a misdemeanor, since alcohol was a preservative of milk. Mr. Limburger's contentions being sustained by the court, other users of preservatives in milk, against whom actions have been brought in the name of the State, have engaged him to represent them.

The Bieseker case is one of much interest to the New York County Medical Society. Last fall this society took up the question of the use of preservatives in milk. The leading milk dealers of New York City were called into conference with the physicians. They all testified to the use of preservatives by the smaller dealers. Some of the preservatives used were chemically analyzed and were pronounced injurious to health. The opinion was advanced by some of the physicians who had given special attention to the subject that the infants of New York City were being poisoned by preserved milk, and that many cases of typhoid fever among the young and adults could be attributed to that source.

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If the Court of Appeals sustains the decision of the Appellate Division in the Bieseker case, there probably cannot be new legislation to guard against the preservative evil until next year, which means that the poisoning of milk used by the poor in the big cities will continue during the coming summer.

Academy of Medicine.—"The Duty of the Public to the Medical Profession" was the topic under discussion at the regular meeting of the New York Academy of Medicine last Thursday. Incidentally the speakers also discussed the duties of the medical profession toward the public, and attempted to find the cause of what they considered the attitude of suspicion which the public always adopted toward any bill or reform measure advocated by the profession as a body. The question of how to bring about a change in this supposed public sentiment was gone into at some length by Dr. A. H. Smith, with whose ideas a majority of those present seemed to be in accord, to judge from the applause with which his remarks were received. "The science of medicine," he said, "is not in touch with the public at large because the profession has kept the public in ignorance of its work as much as possible." There is, of course, no such thing as a race of doctors, but they form a very close corporation, and every member of it shows what looks strangely like an instinctive desire to perpetuate the mystery which increased the dignity of the profession in days when it had little except mystery with which to command respect. They write extremely simple prescriptions in the fragments of a dead language intermixed with cabalistic signs, they resent lay criticism, and even lay description, of their work, and as much as they can they keep up the silly pretense that the opinions of followers of the same "school" never differ. Yet those of us who occasionally get hold of the medical journals and other literature of the profession have little difficulty in understanding what we read, and we look in vain for the big secrets which the doctors wear the air of concealing. They should forget the fact that their not very remote predecessors dabbled with what they imagined was the supernatural. Medicine is a great and noble art, and better men than the majority of its practitioners do not exist, but they have some antiquated ideas about professional ethics and dignity, and their belief that the modern public could not understand their work is a delusion. The modern public could not do that work, to be sure, but it has a perfect right to know as much about it as it chooses to learn, and the less mystery is made of it, the less will be the suspicion to which Dr. Smith referred.

Dr. A. Jacobi held similar views, and said that if the public could be made to understand that the medical profession was not a trades' union, or a trust, it would quickly respond in recognition of the profession's achievements.

All the speakers took occasion to denounce the Christian Scientists and the osteopathists and to propose various measures to prevent them from harming the public at large. In this connection Dr. D. B. St. John Rossa said: "I do not believe that that this struggle to pass new laws to bar out Christian Scientists and Osteopathists is necessary. If we should carry a case to the higher courts we would probably get a decision that they are practising medicine illegally under the present laws."

Dr. Rossa also advocated the passage of a law giving the medical profession a voice in all legislation affecting medical science and the public health. Dr. W. H. Thomson declared that the public, and not the doctor, should decide this question, because the physicians would be accused of selfish motives.

"The practice of calling 'healers,' he said, "especially in the case of contagious diseases, is more dangerous than letting children play with fire. Their whole doctrine is criminal. A law should be passed requiring a qualified physician to visit every case of sickness in order to decide whether the case was a contagious one. This physician should be a public official, so as to prevent all free advertising." Discussion of the formal topic, the public's duty to the medical profession, brought out statements that physicians were not in touch with the public because the public were kept too much in ignorance of the profession's work; lectures by practising physicians should be encouraged, not frowned on as advertising; there was too much "professional etiquette." The world should be kept informed of the progress of science. Dr. A. Jacobi was one sponsor for these views.

The other speakers were Drs. F. R. Sturgis and Robert F. Weir.

PHILADELPHIA.

Orator for Academy of Surgery.—Dr. Joseph M. Spellisy has been elected Orator of the Academy of Surgery for 1902.

Physical Culture in Public Schools.—Governor Stone has approved the measure enacted by the Legislature providing that systematic and regular instruction in physical culture be given in the elementary schools. This act is believed by many to be unconstitutional, but will probably soon be put in force in this city.

Dermatological Society Formed.—The Duhring Dermatological Society has lately been formed with Dr. H. W. Stelwagon as chairman. Monthly meetings are held at various hospitals for the purpose of discussing cases.

Endocarditis from Typhoid Fever.—Dr. J. A. Scott exhibited a patient at the Section on Medicine of the College of Physicians, April 8th. The young man had an undoubted attack of typhoid fever of a rather mild variety. During the attack, pain was noticed in the left chest, and a cardiac murmur was heard. This mur-

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mur still persists and is made louder by exertion on the part of the patient. The diagnosis of endocarditis was made from the cardiac symptoms, leucocytosis (as high as 15,000 at one time and over 14,000 at other examinations), the pain, and the murmur which is still increasing. Drs. Tyson and Hare inclined to the opinion that the murmur was due to relative insufficiency instead of endocarditis. Drs. Eshner and Packard thought that the symptoms pointed to endocarditis.

CHICAGO.

Transfer of Dr. Holt.—Dr. John Milton Holt, Assistant Surgeon, U. S. M. H. S., in charge of the Marine Hospital of Cairo, Illinois, has been transferred to Chicago. He will be succeeded by Past-Assistant Surgeon James H. Oakley, who has been stationed at Queenstown, Ireland.

Definition, Pathology and Symptomatology of Epilepsy.—In a symposium on epilepsy at a meeting of the Chicago Medical and Neurological Societies, held April 3d, Dr. Elbert Wing discussed this subject. All writers practically accept the conditions of Gowers' definition of epilepsy, and it may be affirmed: (1) That impairment or loss of consciousness is the fundamental phenomenon in a paroxysm of epilepsy. (2) That convulsions of a purposeless type may or may not accompany the disturbance of consciousness. (3) These phenomena must not be due to active brain disease, blood states, reflex irritation or primary failure of heart's action; that is to say, it is possible to distinguish attacks of idiopathic epilepsy from attacks which closely simulate epilepsy, but which occur in connection with other diseases. Paroxysms of minor attacks or petit mal occur in two principal forms, with or without warning. In one there is only momentary arrest of consciousness with or without interruption of consciousness. The other form constitutes the varied phenomena of double consciousness, and between these extremes all variations occur. Reference to two types may suffice. Some believe no attack is free from some motor disturbance, *i.e.*, mimetic movements of facial muscles. Others claim that attacks of profuse sweating and unconsciousness are the only symptoms. The writer has one such case under observation. The relation of migraine to epilepsy is so often mentioned that it demands a passing reference. These diseases have in common neurotic heredity, periodicity, early beginning, and at times the same exciting causes. Many sufferers with migraine have become epileptics and both diseases may occur in the same person. In some cases of so-called ophthalmic migraine the symptoms closely resemble the auræ of epilepsy. Some such cases have been cured by bromides. Kraft-Ebing's statement is generally accepted, namely: "I do not know a single case in which simple migraine could be clinically related to epilepsy."

Diagnosis and Variations of Epilepsy.—This phase of the subject was discussed by Dr. Harold N. Moyer. Epilepsy is easily identified when the convulsive attacks are typical. Unfortunately, the family physician often and the consultant almost invariably rely upon the descriptions of lay people for the sequence of events in the seizure. Epilepsy is a symptom-complex, but unlike chorea and other symptomatic disorders of the nervous system, any of the features which make up the attack may be absent in a particular case. The definition of epilepsy by Donath seems to be as satisfactory as any so far proposed. It is this: "An abnormal excitement of the cerebral cortex which increases suddenly, is periodical in its manifestations, has a typical course and disappears rapidly. Whether the attack occurs without unconsciousness and amnesia, depends upon the strength and extent of the irritation." The ordinary classifications of grand mal and petit mal are provisional only as they relate to the severity of the convulsions, the one shading into the other, but such a definition is useful. A lapse of consciousness is the most constant feature in an epileptic seizure, but it may be absent even in cases which are characterized by convulsions, though the latter is very rare. In petit mal the loss of consciousness is very slight, or may not occur at all. Jacksonian epilepsy is by no means clearly demarcated from other forms, but it is so commonly understood to mean those attacks which begin in a limited area of the cortex and extend by continuity. Sometimes the convulsions become general with a loss of consciousness, but more frequently they are only partial. The greatest difficulty in the diagnosis of epilepsy is the so-called equivalents, which are simply psychical states sometimes marked by automatic acts, alteration in the emotion or dream states. They may consist in alterations in the sensory perceptions, the so-called auræ. A very unfortunate combination of words is that known as hystero-epilepsy. These cases are hysteria and not epilepsy. They are distinguished from true epileptic attacks by the absence of an initial cry, the movements are at least coordinate if they do not have a purposive character, the tongue is not bitten, the patients do not injure themselves. The duration of each convulsion is several hours with frequent remissions. Consciousness is generally preserved. Emphasis was laid upon the importance of the early recognition of epilepsy.

Mental and Allied States.—Dr. Sanger Brown said that suddenness and violence of phenomena in epilepsy are suggestive of chemical reaction. Therapeutic measures founded upon the theory that the disease is due to an excess or diminution of this or that organic substance in the economy have been disappointing. Heredity may be divided into similar and dissimilar. Similar heredity implies the existence of epilepsy in ascendents, while dissimilar heredity refers to such ancestral diseases as insanity and imbecility. That the disease is due largely to an inherited defect of the nerve ele-

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ments, rendering them unduly stable, and conformably to the fact that a majority of all hereditary cases begin during the same period, would be expected when the instability of the nervous system during childhood, youth and adolescence is remembered. The author's experience does not either confirm or contradict the statement that cases of hereditary epilepsy are more emenable to treatment than those devoid of that feature.

The psychic or mental manifestations were divided into those momentarily preceding or terminating in other phenomena, or those extending over a period ranging from a few minutes to a few days prior to the seizure or seizures, those which alone comprise the individual attack and those which are the result of the fits either momentarily or remotely, and finally, a class of cases in which the mental disease or disorder is of such a nature that it might be more properly regarded as an association with, rather than an expression of, epilepsy. Of the first class, the most common are those which momentarily precede the fit, and fairly constitute the mental or psychic aura. To mention these in the order of their frequency, those cases come first in which a familiar environment seems strange, and next those in which the surroundings seem a repetition or at least peculiarly familiar. There is a vivid mental perception of detail, sometimes analogous to the visual impression made by a lightning flash in dense darkness. Vague fear, but perhaps intense; a depressing sense of confusion; a consciousness of absurd or trivial mental contents; anger; revenge; joy amounting sometimes almost to a mental or psychic orgasm; a vivid recollection, sometimes quite elaborate. Those changes which precede the seizure for a variable period are properly regarded as premonitions. They commonly consist of marked irritability, depression, violent explosions of temper, indecency, untruthfulness, or a sense of mental exhilaration and joyousness rapidly progressing to maniacal confusion and frenzy. Doubtless, transitory frenzy might constitute a valid defense for homicide. Indeed, a defense of this kind would be very strong if the defendant were known to suffer from epilepsy, whether the frenzy had been previously known to be intimately related to the fits in point of time or not.

The Treatment of Epilepsy.—Dr. Daniel R. Brower spoke on this subject. The prophylaxis of epilepsy demands much more attention than it ordinarily receives. The prophylaxis of post-traumatic epilepsy requires the prompt and judicious treatment of every head injury. The speaker discussed the prevention of individual seizures, treatment during an attack, and the care and treatment between the seizures. Hydrotherapy is an important aid to treatment. A vigorously active skin means a more perfect elimination of toxins. A tepid bath with an abundance of soap is ordered twice a week, temperature 125° F., and a cold douche of an average temperature of 75° daily, to be followed by vigorous friction. Cerebral galvanization is of value. Large electrodes should be used, and a current strength of from one to three milliamperes, and daily if possible. Two steps in this cerebral galvanization are, first, the current is passed longitudinally, the positive over the forehead, and the negative over the nucha; and, second, from temple to temple; the séance should last about ten minutes. Some form of gymnastics should be ordered for the great majority of cases. The bromides still hold the first rank in the treatment. They must be used with proper precautions, and bromism avoided. They must be used for a long time. No case can be called cured until the seizures have been stopped for at least five years. Their curvative action requires the production of their full physiological action, but not their toxic. He rarely exceeds one dram (4.00) a day, and is of the opinion that one dram and a half (6.00) should not be exceeded in any case. A serious objection on the part of some patients to the use of the bromides is the acne which it produces, a result that depends less upon the dose than upon the idiosyncrasy of the patient. Taking the mixture with a very large amount of alkalinized water diminishes the amount of it, as does also the addition of liquor sodii arsenatis in from three to five minims (0.20 to 0.30) to each dose. The arsenic by its alterative and tonic qualities aids the cure. In ordinary cases the iodide of sodium should be given in doses of five grains (0.30) three times a day in the bromide mixture. In the syphilitic cases it should be given in the largest dose that is possible. When the moderate doses of the bromides fail to stop the seizures, he advises a dose of grs. x to grs. xx of chloral at bedtime, often with benefit. Acetanilid is synergistic to the bromides, and when administered in grs. 2 to 5, three times a day, will sometimes be of service. The opium-bromide treatment has not been satisfactory in his hands. Glonoin and the nitrite of sodium are valuable remedies against the petit mal attacks, when given in conjunction with the bromides. The best intestinal antiseptics are salol, salicylate of bismuth and guaiacol carbonate. As to tonics, strychnine, arsenic, the hypophosphites, phosphoric acid and iron are at all times of service. He gives iron, perferably the bromide, in gr. ½ dose, three times a day, whenever the hemoglobinometer indicates it, and then it is of great value. The results that have followed cervical sympathectomy, oophorectomy, ligating the vertebral arteries, and the carotid arteries, have not been such as to justify advising them. If epilepsy is essentially a disease of the cell bodies, of cortical neurons, and a proliferation of the neuroglia, then all such operations are unscientific.

The colony system is the highest ideal for the treatment of these unfortunates. The proof of this is overwhelming in results obtained both at home and abroad.

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GENERAL.

St. Louis Medical Society.—The subject of Urinary Fistula was discussed at the last regular meeting of this society, held Saturday, April 6th. Dr. Bryson read the paper; Drs. J. G. Holland and C. O. C. Max were recommended to fellowship.

Transportation to the American Medical Association.—The Western Passenger Association has granted reduced rates throughout its territory to members attending the American Medical Association. From all points more than 200 miles from St. Paul the price will be that of a single fare plus $2.00. All communications will be answered by the MEDICAL NEWS and by addressing H. C. Johnson, M.D., Chairman of Committee on Transportation. Readers of the MEDICAL NEWS who desire to know the rates, routes, etc., will please communicate with editor who has full information.

Medical Society of the State of North Carolina.—This society will meet in Durham, May 21st, 22d and 23d, under the Presidency of Dr. Julian M. Baker of Tarboro. The oration will be delivered by Dr. Earle Grady of Tryon; the essayist is Dr. R. S. Primrose of Newbern. The annual debate will be opened by Dr. D. A. Stanton of High Point. Dr. A. G. Carr of Durham is Chairman of the Committee of Arrangements.

Study of Epilepsy.—The first annual meeting of the National Association for the Study of Epilepsy and the Care and Treatment of Epileptics will be held in Washington, D. C., May 14 and 15, 1901. Many papers of value from European and American students and full reports of the progress that is being made in the care and treatment of epileptics in this country, are promised for this evening. The President of the Association is Hon. Wm. P. Letchworth, LL.D., Portage, N. Y.; First Vice-President, Frederick Peterson, M.D., New York City; Secretary, Wm. P. Spratling, M.D., Craig Colony, Sonyea, N. Y. Drs. Peterson and Spratling, upon request, will give further information of the coming meeting.

New Orleans Polyclinic.—On account of various requests the session of the Polyclinic will be continued to May 31st, instead of May 11th, as announced in catalogue.

Gift to Liverpool School of Topical Medicine.—According to *Science,* the father and uncle of Dr. Walter Myers, whose death from yellow fever was announced some time past in the MEDICAL NEWS, have given $7,500 to the Liverpool School for the purposes of original investigation.

Women Doctors in South Carolina.—For the first time in the history of the medical profession of this State two young women have been graduated as practising physicians from the Medical College of South Carolina. At the commencement exercises, April 3d, diplomas were awarded to Miss Emilie M. Viett and Miss Rosa Hirschman of Charleston. They are the first graduates of the institution.

Suspected Plague Case at Ann Arbor.—The case reported to be bubonic plague, which was discovered at the University of Michigan, is under treatment in the college pesthouse, which is isolated, and the authorities declare that there is no possibility of a spread of the disease. The patient is a student in the medical department, and became infected, it is alleged, while studying plague germs in bacteriological work. The case was at first diagnosed as pleurisy, but later developments led to the summoning of Dr. Novy, who says:

"I have made cultures from the young man's blood. I shall inoculate guinea-pigs and can tell from the results whether it is really 'black death.' One thing makes the case look favorable. A burning fever accompanies bubonic plague. The young man has very little fever."

Women Medical Students.—Dean Victor C. Vaughan of the University of Michigan Medical School has set his seal of disapproval on the work of women in the department of medicine. The dean's remarks were made before the members of his class in hygiene: "Woman's Lack of Originality" formed the theme for the professor's discussion. "Once a year," said Dr. Vaughan, "I like to tell my opinion of women engaged in the study of medicine. In text-book work generally a woman student will make a better recitation than a man, but when it comes to relying on personal judgment she nearly always fails in efficiency. There are brilliant exceptions to the rule, but when a young woman is thrown on her own resources in a laboratory she fails to come up to the standard set by the students of the opposite sex."

Physician Not Bound to Answer Calls.—The Supreme Court of Indiana decided April 4th that a licensed practising physician is not legally bound to attend any patient for whom he is called, although he may have served as family physician for the sick person's family in the past, and he is not liable for damages for refusing to answer calls. The case came up from Montgomery County, where Dr. George Weddingfield refused to attend the wife of George D. Hurley, although called on three times, the last time by a preacher, who offered to pay the fees in advance. It was charged that the woman's death was due to the lack of a physician's aid, and the doctor was sued for $10,000 damages.

Christian Scientists in Minnesota.—A decision of the Supreme Court of Minnesota maintains that Christian Science healers are not practising medicine while engaged in their calling and hence are not amenable to the medical regulations.

To Aid the Older Physician.—In the recent annual report of the Connecticut State Board

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of Health the suggestion is made that some modification of the Registration Act of the State be made so as not to exclude old and skilled physicians not technically up in the minute points required in the examinations. On this matter the report says: "If present conditions continue the profession in this State will be almost a close corporation, limited to those who join it while they are fresh from their college work, and their memory is still retentive of chemical formulæ and of minute points in anatomy and physiology."

Connecticut Death-Rate.—The death-rate for the State during the year 1900 was 17.9 per 1,000. In ten years, notwithstanding the fuller returns of deaths, the rate has fallen from 19.2 per 1,000 to 17.9 per 1,000. The divorce laws appear to be better enforced in the State, as, in spite of increase in population, divorces have fallen from 477 to 431 during ten years. On the other hand, births, in spite of fuller returns and increase of population, have been almost stationary for eight years, there being 20,395 in 1900, as compared with 20,296 in 1893.

Connecticut Sanitary Science.—The annual report of the State Board of Health, one of the most carefully prepared of the State reports, was published this week. After noting the improvement in sanitary administration in the State during the last few years, the report calls attention to the rapid increase in pneumonia. That disease has now outstripped consumption in mortality, and, out of 16,263 deaths from all causes in Connecticut during 1900, there were 1,631 victims of pneumonia, as compared with 1,476 from consumption and 1,341 from heart disease. During the decade from 1890 to 1899, inclusive, the average annual mortality from pneumonia has been 1,296, as compared with an annual average mortality of 776 during the thirteen years previous. The disease is, the report says, in close accord with the development of late years of influenza and la grippe. The tables indicate that consumption is slowly dying out.

Typhoid in Connecticut.—Some remarkable figures are given in the last annual report to show the large mortality from typhoid fever in private practice as compared with hospital treatment in 1900. Returns from six hospitals with 693 typhoid-fever patients show a mortality of but 6.8 per cent., while 1,163 cases in the whole State showed a mortality of 20 per cent. An official report of the Forestville epidemic of typhoid fever resulting in 50 cases and 7 deaths is given, showing clearly that the disease originated from river water contaminated by human excreta from a factory, the water being pumped into the regular Forestville supply owing to a break of a pipe where it crossed the stream.

Appointments by the State Health Commissioner.—Dr. Daniel Lewis, State Commissioner of Health, April 8th announced the following reappointments of employees in the State Health Department: Dr. F. C. Curtis of Albany, medical expert; F. D. Beagle of Oneida county, registrar of vital statistics.

Hospitals Benefited.—By the will of the widow of Senator John McPherson of New Jersey, on the death of her daughter, $10,000 is to be given to the Emergency Hospital in Washington and $50,000 to Christ Hospital, Jersey City.

Christian Science Invading Germany.—The *Deutsche Evangelische Kirchen Zeitung*, a leading Protestant organ in Germany, bitterly complains that of late "the so-called Christian Science has been imported from America, and is now being spread by Americans residing in Germany, particularly in Berlin." The paper declares that the movement is making rapid progress among the higher, and even the highest, classes, although exclusively among ladies thus far. It characterizes the belief of Christian Scientists as "superstition," and their practices as "methods for wringing money from the unwary." The article, which is now making the rounds of the press, has created a sensation.

Insanity Not on the Increase.—The State Board of Insanity in Massachusetts agrees with that of Indiana in the belief that much of the apparent disproportionate increase in the number of insane in public institutions is due to the marked and growing tendency to commit all classes of the insane to institutions, especially in the case of old people, of the feeble-minded, and of criminals. It is an increase of registered, but not of occurring, insanity, the rate of increase in the latter being asserted to be much less than the apparent increase of the insane. Nevertheless, the annual increase in the number of insane in Massachusetts is about 300, and the provisions for their accommodation are inadequate. Of the 7,417 patients in public hospitals and asylums on October 1st last, something over 13 per cent. were sleeping on cot beds made up each night in the corridors and the day rooms. This, of course, was detrimental to the health of the patients. In addition to the annual increase, the State is to assume the care, after 1903, of all the insane in city and town almshouses. These now number about 900. In Connecticut, too, the number of insane is in excess of the public accommodations. There are 2,135 patients in the asylum at Middletown, which is 500 more than there is room for, and the number is being added to at the rate of 100 a year. The building is crowded with humanity like cattle in a pen, a legislative committee reports, and in a garret they found 100 men packed in where there was room for but twenty. The presentation of these facts hastened the appropriation by the Legislature of $165,000 to increase the accommodations.

Rudolf Virchow Fund.—The American medical profession is asked to notice that on October 13, 1901, Dr. Rudolf Virchow will be

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eighty years old. When he completed his seventieth year a fund was started in his honor to enable the great master to facilitate scientific research by establishing scholarships, and by encouraging special medical and biological studies. Contributions to that "Rudolf Virchow Fund" were furnished by those in all countries interested in progressive medicine, as a homage to the man whose name is always certain to arouse admiration and enthusiasm. In Berlin a large committee, containing amongst others the names of A. Bastian, Von Coler, A. Eulenburg, B. Fraenkel, O. Israel, Fr. Koenig, C. Posner and W. Waldeyer, has been formed to call for contributions which are to be added to the original "Rudolf Virchow Fund" so as to increase its efficiency. The Committee expresses the opinion that in no better way, and in none more agreeable to the great leader of modern medicine, can his eightieth birthday be celebrated, and asks for the sympathy and cooperation of all those engaged in the study and practice of scientific medicine all over the globe. The undersigned have formed a subcommittee for the purpose of making the American profession acquainted with the intentions of the Berlin Committee, and urge their colleagues to participate in honoring the very man who has done more, these fifty years, than any other to make medicine a science and international. Subscriptions should be sent to the secretary, who will receipt therefor.

CHARLES A. L. REED, President of the American Medical Association.

HENRY P. BOWDITCH, President of the Congress of American Physicians and Surgeons.

WILLIAM K. WELCH, Johns Hopkins University.

ROBERT F. WEIR, President of the New York Academy of Medicine.

A. JACOBI, 110 West 34th Street, New York, Secretary.

New Haven's Typhoid.—It was said that on April 6th there had been 125 cases of typhoid fever in this city and that the disease has reached epidemic proportions. Never in the history of the Board of Health of New Haven have there been so many cases at one time here. The record prior to this was made in 1897, when there were sixty-three cases, many of them proving fatal. Two weeks ago the city was practically free from the disease. In the western part of the city there started half a dozen cases at once and since then the new cases have been reported at the rate of six a day. A special typhoid ward was fitted up at the New Haven Hospital last night with a corps of three nurses and one orderly. Sixteen patients have already been taken there for treatment. One of them is N. N. Berg, a student of Yale. Another Yale student who is ill is J. Frank Flynn, but he has been taken to his home in Meriden. There are two Yale men in the Yale infirmary with the disease. The health officials have said that they have traced the origin of the disease to Dawson Lake, a feeder to the New Haven Water Company which supplies the city. Near a brook leading into Dawson Lake resided a family that last winter had three cases of typhoid fever. Typhoid organisms have found their way into the brook and went to the lake and have since been running through the water pipes of New Haven. Later reports show that there have been officially reported 186 cases altogether. There have been thus far no deaths. An expert from Lehigh University, who has examined the cases, says that they are of a malarial character, but both the local and State health officers pronounce them genuine typhoid.

Obituary.—John H. Grove, M.D., LL.D., a well-known surgeon of Philadelphia, who was brevetted Lieutenant Colonel for distinguished services in Union military hospitals during the Civil War, died last week. For many years he was medical director of St. Agnes' and St. Mary's Hospitals in Philadelphia. In 1899 he presented a memorial chapel to the Presbyterian Church in Marietta, Pa. He was born in 1825 in Maytown, Pa. He was a fellow of the College of Physicinas, a member of the Society of Medical Surgeons and a Mason of high degree.

Dr. Thomas A. Hill, formerly of Chicago, but since 1894 a resident of New York, died of apoplexy April 5th in his eighty-fourth year, at Danville, Ill.

CORRESPONDENCE.

OUR LONDON LETTER.

[From Our Special Correspondent.]

LONDON, April 1, 1901.

THE KING'S PHYSICIANS, SURGEONS, APOTHECARIES AND DENTISTS—THE KING'S HEALTH NOT AS GOOD AS IT MIGHT BE—THE COURT DOCTORS AND THEIR CHARACTERISTICS—PHYSICIANS ORDINARY AND EXTRAORDINARY.

THE *London Gazette*, which is the official organ of the Court, in its issue of March 29th contains the names of the physicians, surgeons, apothecaries, dentists, etc., who have been chosen to minister medically to the person of King Edward VII. The list comprises thirty-three names, so that, if it be true there is safety in a multitude of counselors, it ought to be many years before our Gracious Sovereign adds the title of "Late" to the many and manifold designations in which he already rejoices. Your readers doubtless remember the story of the courtier who, in speaking to Louis XVI., referred to *"Sa Majesté le feu Roi d'Espagne,"* and how the *Grand Monarque* was shocked at the expression till it was explained to him that *"c'est un titre qu'ils prennent."* Were it not that the text quoted above might be interpreted as meaning that the safety was for the counselors rather than for the counseled, it might be thought that the complaint most

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likely to create a vacancy in the British throne was a "complication of doctors"—a development of pathological science of which the credit belongs to an American jury.

But if Edward VII. could probably dispense with many of his doctors, it is pretty certain that he will need a good deal of doctoring. His life is, from the insurance point of view, by no means a good one. The real reason why his broken kneepan was not wired two or three years ago was simply that the surgeons thought the operation too risky in view of the constitutional condition of the patient. He is much inclined to obesity, and though he has suffered much on this score from more than one physician, the royal form is still such as might make applicable to Edward VII. Beau Brummel's unkind remark spoken *at* George IV., "Who's your fat friend?" Then his water is not, as Falstaff's doctor said of his illustrious patient, "in itself a good water," for it contains, or at any rate did recently contain, albumen and sugar. Withal His Majesty, like his mother, is a great eater, and nowadays takes little exercise.

It would be tedious to inflict on you the full list of the new Court doctors. The physicians in ordinary are Sir William Broadbent, Sir James Reid and Sir Francis Laking. The only one of these who counts for anything in the eyes of the profession is Sir William Broadbent who has done some good work, notably in the domain of heart disease. He is an eminently sensible man, of much shrewdness but little brilliancy. He may be described as a glorified family physician. He steadfastly labors in his vocation in the spirit of Iago's advice to Roderigo "Put money in thy purse." This he does in all honesty and without the aid of questionable methods, the impolicy of which he is astute enough to perceive. He has an immense *clientèle* among financial leaders in Israel, and was at one time the trusted adviser of the Prime Minister. Some disagreement with Lady Salisbury in her last illness, however, lost him the favor of her lord, and his political influence which was supposed to be considerable suffered obscuration. It should be explained that the political influence of a physician in high places here is exerted mainly in procuring titular distinctions for his friends and the patronage of his exalted patients for schemes and institutions in which he is interested. It is only fair to add that Sir William is a man of marked independence of character with a high sense of professional dignity.

Of Sir James Reid enough was said in my last letter. His appointment is doubtless nothing more than a graceful recognition of his long and faithful guardianship of the late Queen. Sir Francis Laking has for many years been Apothecary, that is family doctor, to the royal household. His connection with the Court has hitherto been rather by way of the backstairs. But with the new King he is a *persona grata*, and his professional respectability is beyond challenge.

In addition to the Physicians in Ordinary, there are Physicians Extraordinary. To this nominal dignity have been appointed Sir Joseph Fayrer, Sir Richard Douglas Powell, Sir Edward H. Sieveking, Sir Felix Semon, and Dr. John Lowe. Sir Joseph is well over eighty and lives in retirement. He won a great name for himself in India, and during the famous siege of Delhi in the Mutiny, his house was one of the chief strongholds of the garrison. He accompanied the King, then Prince of Wales, in his progress through India. For many years he was Medical Adviser to the Indian Office here, and he has beguiled the tedium of an enforced leisure by literary production, the most interesting of his writings being an autobiography which, as far as it relates to his Indian career, is a historical document of considerable importance. Sir R. Douglas Powell is in appearance and manner and, it may be added, in his somewhat unctuous rectitude, of professional conduct the very type of the dignified physician. To him, it is said, was due the extraordinarily periphrastic phraseology in the bulletins about the late Queen, which were classic examples of the use of language to conceal thought. Sir Edward Sieveking has been off the active list for some years. Except titularly, he has never had anything to do with the Court. He had a great disappointment in his professional life, for when the Prince of Wales was struck down by typhoid fever in 1871, Sieveking was sent for in the first instance to assist Jenner. He was out of the way, however, and the late Sir William Gull was invited to go as a temporary substitute. But Gull once at the bedside of the royal sufferer refused to leave it. Like Marshal Macmahon in the Sedan, he said *"J'y suis, j'y reste."* Sir Felix Semon is a German Jew with the vertebral flexibility and insinuative perseverance which are the badge of his tribe. When he first came to this country, he attached himself to Morell MacKenzie. As soon as he could afford to be independent he prudently made friends to himself of a more respectable kind of professional Mammon, and he has had his reward. He advised Gladstone when the great orator's voice was beginning to fail, but his counsel was not sought in the Grand Old Man's last illness. Sir Felix Semon is a man of real talent, but he does not need to pray with the Scotch minister of the story that "God may give him a guid conceit o' himsel." Dr. John Lowe is a general practitioner of Sandringham in Norfolk where the King lives the life of an English country gentleman, and was in attendance when His Majesty had typhoid fever.

Appearance of American Medicine.—Dr. George M. Gould's new enterprise, *American Medicine*, has just appeared. We wish it success.

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TRANSACTIONS OF FOREIGN SOCIETIES.

French.

TREATMENT OF CANCER—PUERPERAL SEPTICEMIA —LARGE-INTESTINE HERNIAS—CANCER OF THE RECTUM—STERILIZATION OF COCAINE SOLUTIONS.

LAUNOIS, at the Société de Chirurgie de Paris, February 20, 1901, discoursing on the treatment of cancer, reported the very promising results following subcutaneous injections of a soluble salt of quinine after the method of Jaboulay, in an inoperable case of cancer of the uterus. The symptoms were accentuated paresis of the lower extremities with considerable pain and functional derangements. Under the influence of subcutaneous injections of chlorohydrate of quinine, repeatedly exhibited, these phenomena disappeared and the ulceration of the neoplasm itself ameliorated to a marked degree. Tuffier, in the discussion, said that he has found the cacodylate of soda equally as efficient as the quinine salt recommended by Jaboulay. A large mammary cancer with extensive ulcerations had materially changed for the better under its exhibition hypodermatically, frequently repeated. Bazy emphasized the peculiarity of cancer to undergo occasional arrest or amelioration independently of all treatment. He had removed a large cancer of the breast associated with paraplegia and gibbosity. Both disappeared spontaneously after the operation. Felizet suggested the interest inherent in an attempt to prevent recurrence by resorting to these injections during the after-treatment following an operation. If the method of Jaboulay and Launois is efficacious, this would probably also avail greatly. Berger said he has frequently used the serum of Wlaiev and noted occasional marked improvement in the symptoms, especially the functional and pain signs, but as to the growth itself as a pathological process he has unfortunately not seen any change. In fact he felt that we are not on the point of finding any real cure for cancer. Nimier said he had lately seen not the slightest improvement in a lingual cancer or in its metastatic deposits in the glands of the neck, following the use of Wlaiev's serum.

ROCHARD, at the meeting, February 27, 1901, discussed surgical intervention in puerperal septicemia and reported five such cases with five deaths, following the operation. In one case there were multiple purulent foci which he evacuated and otherwise cleaned out the pelvis, but the patient died right after the operation. In three of the remaining cases abdominal hysterectomy was done; in the last vaginal hysterectomy was done. He feels that death was not due to surgical treatment, but to the delay in its application. The indication is removal of the uterus as the main focus, but such removal must be done very early. As to the avenue for the removal, he felt that the abdominal route is the better, because it gives a wider view of the lesions. The friability of the infected postpartum uterus constitutes a serious obstacle to its extirpation by the vagina, practically a contra-indication.

SCHWARTZ in reviewing the clinical features of hernia of the large intestine named two varieties; one in which reduction was easy because the sliding condition of the bowel and its partial peritoneal covering was still maintained, and the other in which adhesions prevented liberation and reduction. The technic of dealing operatively with the former has already been enunciated by him and is comparatively simple. In the latter in a recent example he resected *in toto* all the adherent bowel, but that did not prevent the patient from dying.

BERGER stated that four or five years ago with the aid of Quénu he removed the whole of the rectum and part of the sigmoid colon by the perineo-abdominal route for cancer. Within a few days he had again seen the patient and found him in a most satisfactory condition. No sign of recurrence and the artificial anus operating well. Although the lesion was shown to be chronic inflammatory and not cancerous in character, nevertheless the good condition of the patient was attributable to the operation. By the perineal route in an old woman he has recently removed fourteen centimeters of the rectum which covered twelve centimeters of its extent. As a preliminary step he made an artificial anus by the intramuscular method and found that, after a few days of trouble, owing to the contraction of the muscles checking the outflow of feces, it made an admirable anus. After freeing the bowel he shortened the technic by placing an elastic ligature about the bowel which came away, leaving the stump healthy and in apposition with the external wound, after about twelve days. As another preliminary to this operation he commends the taking away of the coccyx because it exposes the perirectal fat and leads directly to the levatores and their associated planes of fascia, thus facilitating easy enucleation of the bowel from its bed.

RECLUS, in discussing the various means of rendering cocaine solutions sterile, said that the simplest is that of Hérissé, who, in 1898, found that the rotatory power of cocaine is not lost by boiling. The speaker's own experience was that the anesthetic qualities of the drug are also not affected by boiling any more than by heating in the autoclave to 115° to 120° C. He had recently used a solution three months old which had been raised to 120° C. in the autoclave and found its anesthetic powers perfect.

Fresh Air Home for Nurses.—Mrs. Walter B. James has recently purchased a place at Far Rockaway for a fresh-air home for trained nurses.

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SOCIETY PROCEEDINGS.

NEW YORK ACADEMY OF MEDICINE—SECTION ON PEDIATRICS.

Stated Meeting, Held March 14, 1901.

William L. Stowell, M.D., Chairman.

Congenital Heart Disease.—Dr. A. Bassler presented a patient suffering from an interesting form of congenital heart affection. The patient is a girl of about six years of age who has constantly had some symptoms pointing to the existence of a heart lesion. Loud murmurs can be heard all over the chest and in the back at the angle of the scapula. A heart beat can be felt on both sides of the chest. While the heart has labored a good deal, there has never been much cyanosis and the child is in reasonably good general health. The lesion seemed to be one of pulmonary stenosis.

Dr. C. G. Kerley said that it is an extremely difficult matter to make an exact localizing diagnosis of a congenital heart lesion. There are many possibilities in the matter of malformation and too little is known about the physical signs that these various anomalous conditions produce to enable the making of a definite diagnosis. The symptoms must be met as they arise, as far as is possible, and the best diagnosis is one that does not assume too exact knowledge of the actual condition present.

Not Uncomplicated Pulmonary Stenosis.—Dr. Libman said that the dulness above the region of normal heart dulness in the first and second interspace in this case seemed to point to the existence of a patent ductus arteriosus. There is no accentuation of the second sound over the pulmonary valves. There seems good reason then to think that the case is not one of uncomplicated pulmonary stenosis. There is another reason for thinking that the case is not merely pulmonary stenosis. This is the presence of a secondary area of pulsation on the right side of the child's chest. This rather than the pulsation on the left side seems to be the true apex beat.

Dr. J. Finley Bell of East Hampton read a paper on Interesting Experiences in an Epidemic of Typhoid Fever, Fetal and Infantile Typhoid and Scarlatina Complicating Typhoid Fever and Vice Versa. This paper will appear in a future issue of the MEDICAL NEWS.

Pathology of Typhoid Fever.—Dr. Martha Wollenstein read a paper on the recent advances in the bacteriology and pathology of typhoid fever. Aberth and Koch described bacilli which occurred in the stools of typhoid patients. Gaffky, however, was the first to have them grow in pure culture. Typhoid bacilli may remain latent in the system for many years and yet retain all their virulence. They have recently been discovered in pure culture in the pus of osteomyelitis, occurring in patients who had had typhoid fever many years before. The best explanation of their presence and their causative action in the osteomyelitis has been recently given as follows. Somehow the typhoid bacilli found their way to the bone marrow. Deposited there they remained absolutely inactive, although living so long as the individual retains the acquired immunity to typhoid fever, which is the result of the previous attack. After the immunity has run out, either as the result of some injury lowering tissue vitality, or even spontaneously, the typhoid bacilli regain their virulence and osteomyelitis is developed.

Life Outside the Body.—Typhoid bacilli readily take up a saprophytic existence. They live most frequently in water, may exist there for several weeks and usually multiply very plentifully. A favorite culture medium for the bacillus is milk. Hence the number of epidemics that take place through this medium. Milk may be infected by hands that have come in contact with typhoid fever discharges, or by being placed in vessels washed with infected water. Other sources of infection are not wanting. Typhoid bacilli cling to particles of dust and may settle on milk, or they may be carried to it on the feet or wings of flies. Dr. L. Emmett Holt has shown that they may exist in ice cream.

Other Modes of Contagion.—Typhoid fever may be carried in the air but not for long distances. In a badly-ventilated ward it may travel from bed to bed, even when great care is exercised. As a general rule, however, typhoid bacilli resist drying very poorly and are always killed by complete drying. This preserves the air from serious contamination. Typhoid fever has been conveyed through the rectum by means of enema tubes. Clothing worn by typhoid-fever patients has been known to convey the disease. Monti and others say that typhoid fever may be conveyed by a sick nursing mother. It is certain that the bacillus of typhoid fever can pass through the placenta from mother to child. Twenty-five per cent. of all typhoid patients' urine contains typhoid bacilli and this excretion requires as careful disinfection as the stools. Typhoid bacilli have been found in the sputum. The bacillus has been cultivated from the blood taken from rose spots. The bacilli are found very rarely in throat secretions. They occur very often, however, in the bone marrow. Quincke after carefully investigating this subject found that they occur as often in the bone marrow as in the spleen.

Lesions of Typhoid Fever.—Lesions of the disease are usually in the gastro-intestinal tract. It must not be forgotten, however, that typhoid fever may run its course without any lesions in the intestinal tract and with the occurrence of lesions only in the lungs. In these cases it would seem that the infection has been conveyed through the air.

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Typhoid Bacilli Pyogenic.—There is no doubt that typhoid bacilli alone may cause the production of pus. They have been found in pure culture in osteomyelitis. In one case the osteomyelitis occurred in the sternum of a child. Typhoid bacilli have been found as the sole cause of an abscess of the kidney. They undoubtedly cause abscesses of the parotid gland. Suppurative meningitis has also been traced to their activity. In certain cases typhoid septicemia sets in. This is usually fatal. The infection that causes septicemia usually comes through the blood. Bacteriological examination is the only diagnostic method by which a typhoid septicemia can be diagnosed from septicemia due to other pyogenic microorganisms.

Special Pathology of Infantile Typhoid.—The basic pathological process in typhoid fever in children is hyperplastic, rather than necrotic. Peyer's patches are enlarged and swollen, rather than necrosed. This distinction between adult and infantile typhoid has been pointed out by both Baginsky and Monti and has been confirmed by other observers. The dictum that the younger the child the less the number and extent of the intestinal lesions of typhoid is one that admits of many exceptions. It is true that characteristically children's intestines suffer much less than do those of adults, but in some cases of weakling children the intestinal lesions are very extensive and deep.

The Blood in Typhoid.—The red blood-cells diminish progressively during the course of typhoid fever until convalescence becomes established. There are certain variations in the blood-count that from time to time seem to indicate the presence of a larger number of red blood-cells than before. The rise in the average number of red blood-cells occurs just after severe diarrhea or febrile sweating. It is evident that the increase of red blood-cells is only apparent and is really due to the presence of less serum in the circulation than before. Severe hemorrhage lessens the number of red blood-cells directly and adds very markedly to the anemia. The number of white cells is lessened, but only relatively to the number of reds. The presence of inflammatory complications causes a leucocytosis. The occurrence of leucocytosis then should arouse suspicion of the development of some complication.

Value of Widal Reaction.—Dr. John Lovett Morse of Boston discussed the value of the Widal reaction with special reference to its usefulness in the typhoid fever of children. There are three factors that are important for the value of Widal's test. These are, first, the dilution at which the agglutination takes place; secondly, the length of time necessary for its production: and thirdly, the completeness of the clumping of the bacilli. Dr. Cabot of Boston uses a dilution of one to ten for the performance of the test and considers that the agglutination, to have a diagnostic value, should take place within half an hour. The Boston City Board of Health employs a dilution of one to twenty, but allows an hour for the complete reaction to take place. Abroad there is a tendency to employ high dilutions and to allow a long time for the completion of the reaction. In this country a tendency in the opposite direction has been noted.

Widal Experience in Boston.—Dr. Witherington of Boston reports on Widal's test in 253 cases which clinically were typhoid fever. In ten, 4 per cent., the characteristic reaction failed to occur. In all of these the later symptoms and the clinical course showed that the disease was typhoid. In addition to mistakes in diagnosis there are certain reasons, now well recognized, for the failure of the Widal test. In a certain number of cases the power to cause agglutination of the bacilli is present in the blood only intermittently. Examinations at certain times therefore will fail for this reason. In other cases the Widal reaction is never present during typhoid fever at all, although the cases are true typhoid and may prove fatal and show the characteristic lesions at autopsy. Widal himself has reported a case in which the reaction was absent and yet typhoid fever bacilli were obtained from the skin. The reason for the absence of the test is not known in certain cases and it constitutes a small, but a real possibility of error that prevents the test from being absolutely diagnostic.

Duration of Agglutination.—In some cases the power to cause agglutination remains in the blood as long as ten years after recovery. In about 70 to 75 per cent. of the cases, however, it disappears under five years. This constitutes another source of error for the Widal test. It would seem that in certain cases, notwithstanding the persistence of the power of agglutination, reinfection may occur. In 365 cases of patients not suffering from typhoid fever and with no history of typhoid fever, Cabot found the Widal reaction once. The source of error from this source, therefore, is probably very small.

Occurrence of Widal.—The Widal reaction is present in over 95 per cent. of all cases of typhoid fever. It is seldom present before the second week of the disease. As to its absolute diagnostic value, it seems as near certain as anything can be, that the case is not typhoid if the Widal reaction is absent, after a reasonable length of time, with a dilution of one to fifty.

Widal Test in Children.—It has usually been presumed that the Widal test is the same for children as for adults. The subject has not been very much discussed, however. Examination of recent statistics shows that the agglutinating power is weaker in children, that it appears earlier in the disease and

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persists for a shorter time than in adults. The test is of special value in differentiating gastro-intestinal diseases, running their course with fever. The drop in the reported number of hospital cases of typhoid fever in children in recent years, is undoubtedly due to the more general use of the Widal test. On the other hand the use of the Widal test enables the physician to make a positive diagnosis of typhoid fever in many mild cases in which the presence of the disease was scarcely suspected. The Widal reaction in infants takes place much as in older children, but it is of less diagnostic value. The agglutinative power can pass through the placenta or may pass through the mother's milk. In one case it was transmitted through the milk as long as fifteen years after the occurrence of typhoid fever. The power of the child's blood to reproduce the agglutinative reaction after it has been obtained through the milk is not very persistent, however. It may not last for more than a week. In nursing children then the presence of the Widal reaction has no definite significance as regards the presence of typhoid fever, unless other symptoms are present that clearly point to the existence of the disease in the infant.

Infantile Typhoid Rare.—Dr. W. P. Northrup said that infantile typhoid is not as rare as it is said to be by some people and that the Widal reaction is of importance in deciding as to the presence of the disease. In a case recently under Dr. Northrup's care, nine months old, the patient's father and two brothers were sick with typhoid fever. The mother did not nurse the infant, but the child was allowed to play on its father's bed, where it evidently absorbed from its fingers a large amount of infectious typhoid material. The child's passages became frequent and greenish in color and it suffered for several days from continuous fever. On the sixth day characteristic rose spots developed. The temperature continued at 103° F. for nine days and did not become normal until the twelfth day. When the temperature began to run a normal course, the passages became less frequent and the spleen diminished in size. The blood was carefully examined for plasmodium malariæ, but none were found. The Widal test was tried during the first ten days, with negative results until the twelfth day, when a positive result was obtained. Four days later it was found once more to be positive.

Incidence of Infantile Typhoid.—Dr. Northrup said that very varying opinions are held in different parts of the country as to the occurrence of typhoid fever in infants. While infantile typhoid is very rare in New York, it occurs not infrequently in Chicago. It is evident that only when an epidemic is especially virulent, does the infected material acquire sufficient strength to affect the usually immune infant. Infantile typhoid does occur, however, in New York. It is probable that large amounts of infectious material and multiple exposure are required. It must not be forgotten that malaria may occur with typhoid and that if the plasmodium malariæ is found in the blood, this does not necessarily exclude the presence of typhoid.

Infantile Typhoid in New York.—Dr. David Bovaird said that in New York City infantile typhoid is not as frequent as it is elsewhere. Among the manifold intestinal ills of children, especially during the warm weather, typhoid may be easily passed over. Thinking that this might be one of the causes for the fewness of the reported cases, Dr. Bovaird carefully examined all the children admitted last summer to the seaside home of St. John's Guild. Repeated Widal tests were made, wherever there was the slightest suspicion of the existence of typhoid fever. Although hundreds of children were examined from many different parts of the city, not a single case of typhoid fever was discovered.

Delayed Widal Reaction.—Dr. James J. Walsh said that the delay in the occurrence of the Widal reaction in certain cases is probably significant of failure of the organism to immunify itself against the typhoid virus. It would seem that the problem involving the reasons for the delay in the occurrence of the Widal reaction is simpler in children and may be better studied in them than in adults, because of the possibility of properly regulating their diet in various incidents of their illness and convalescence.

Abnormal Typhoid.—Dr. Libmann said that in seventy cases at Mt. Sinai Hospital routine Widal tests showed the presence of typhoid fever in cases in which typhoid fever was not even thought of, because of the clinical history. In one case a typical pneumonia existed. In others meningitic symptoms were present. One child came to the hospital in coma and was suspected of having tuberculous meningitis, but the Widal reaction showed that the typhoid bacillus was at work. The custom at Mt. Sinai is to use a dilution of one in twenty and wait fifteen minutes for clotting to take place. The typhoid bacillus culture that is used should be grown at a temperature of 30° C., rather than at 37° C. Those grown at a higher temperature are more susceptible of agglutination and are more prone to give false reactions.

Dr. Northrup said that, with the one exception which he has reported, he has never in twenty-five years of hospital or private practice seen a sure case of typhoid in an infant. During these twenty-five years 1,200 children have been constantly farmed out from the Foundling Asylum. They have been brought back suffering from all sorts of diseases, but never with typhoid. At times there have been suspicions of typhoid, but the diseases have turned out to be catarrhal enteritis of some

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simple type, or some of the anomalous forms of grip, or central pneumonia.

Leucocytosis in Typhoid.—Dr. Morse in closing the discussion said that diphtheria and typhoid fever may prove fatal from an overwhelming dose of the toxins of the disease. Fulminant infection is an index of special virulence and of the intensification of infective material by passage through susceptible individuals. Wherever there exists a leucocytosis one must be very wary in making the diagnosis of typhoid fever. Careful watch of the leucocyte count enables the doctor to anticipate complications of various kinds and gives a good idea of the prognosis. However infantile typhoid may be in other cities, there is no doubt that it is extremely infrequent in Boston. Out of 700 cases of disease in the Infants' Hospital during the last year only one has been suspected of being typhoid. During the progress of this case the Widal test was frequently made, but it proved negative. Dr. Morse said that the question of the Widal reaction being one of immunity or of infection, had not yet been settled. Whether a delay in the agglutinative reaction meant that the system was not properly immunifying itself against relapse of the disease was not known. Definite statistics on this subject were lacking. There was no doubt, however, that the Widal test would prove useful in diagnosis not only for the recognition of typhoid, but also for the anticipation of certain complications of the disease.

NEW YORK ACADEMY OF MEDICINE—SECTION ON ORTHOPEDIC SURGERY.

Stated Meeting, Held February 15, 1901.

George R. Elliott, M.D., Chairman.

The subject of the evening's discussion was a symposium on Clubfoot.

Etiology of Congenital Talipes Equino-Varus.—Dr. H. W. Berg read this paper. He devoted a part of his paper to calling attention to views elaborated and published by him in 1881. He said it was a fact that talipes equino-varus was a morphological stage in the normal development of the lower extremity of every human fetus. In early fetal life the leg as a whole rotated outward and this outward rotation was accompanied by an exaggerated varus and later an equino-varus. This outward rotation reached its maximum as soon as the joints were formed. The thighs were flexed upon the body and the legs partially flexed upon the thighs. The wide border of the thigh and the tibial border of the leg pressed against the abdomen of the fetus, the legs crossing each other. All intra-uterine pressure was thus brought to bear directly upon the outer border of the thigh and leg. As a result the foot was rotated in and extended (equino-varus). This, then, was a stage in the normal development of every healthy fetus, and were the extremities to remain in this position all children would be born clubfooted. Nature provided against this by an inward rotation of the extremity carrying the leg away from its position against the abdomen of the fetus. The soles of the feet came to lie against the uterine walls and intra-uterine pressure was exerted directly upon them producing extreme flexion and outward rotation of the foot—thus was antagonized the varus or equino-varus which had hitherto existed. This inward rotation began about the second month, was to a great extent accomplished by the fourth month, but not complete till the fifth or beginning of the sixth month. Now, if this *inward rotation*, this second rotation stage did not occur or was incomplete the child was born more or less clubfooted. The different stages of rotation were illustrated by fetal specimens from the museum of the New York Hospital. Dr. Berg denied that his views were those of Eschricht as some had claimed. He said Eschricht, like himself, had said that talipes equino-varus was a stage in the development of the lower extremities of the human fetus, but Eschricht had not explained how it was produced. There was no embryological data at that time (1851).

Mechanism of the Foot.—Dr. J. E. Kelly dealt with the mechanism of the foot and the advantages to be derived from the anatomical study of the factors and treatment of talipes. He called attention to the erroneous idea which persisted as to the existence of a transverse arch in the foot. He said it was impossible, as it had no internal abutment; it bore a greater resemblance to a "flying buttress" the upper and inner extremity of which was supported by the so-called longitudinal arch. In reality it was a semi-dome which with its fellow foot constituted a dome upon the apex of which the weight of the body rested. He called attention to the benefits obtained by utilizing the stability of the margins of the semi-domes in walking especially in those tending to pes planum and talipes-valgus. He dwelt on the fact that the factors in the third and fourth degrees of talipes equinus, varus and equino-varus had best be divided into hyper extension, adduction, torsion and longitudinal folding with the exception of the last, which results from the simple approximation of the internal and external margins of the foot. Each of these factors is complex and may occur in two or more anatomical sites and in different degrees, thus accounting for the infinite variety of talipes. He reviewed the different factors in detail—action of the muscles and resistance of ligaments and observed as a summary that the factors in hyper-extension, or vertical deformity, are the retraction of the heel, luxation downward and forward of the astragalus and the plantar flexion at Chopart's articulation. Adduction is due to the curvature in the neck of the astragalus, dis-

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placement of the scaphoid and the traction exercised by the severed tendons and muscles on the inner aspect of the foot. The torsion is caused by the rotation of the scaphoid on its anteroposterior axis, the traction of the tibialis anticus on the inner margin.

Mode of Section.—The author pointed out that the peculiar facilities of section, resection and dissection were afforded in the two margins of the foot and indicated the positions from which the different structures could be most easily reached. He said that, owing to the direction of fibers of the plantar fascia, it was best to divide it posteriorly near the tubercle of the os calcis, where the flexor dig. brevis, the flexor accessorius and the long plantar ligament might be divided. The division should be obliquely forward and outward parallel to the ext. plantar vessels and nerves. Should the external septum need special section, it could best be approached from the external margin. He advocated the division of tendons close to their insertion. Owing to the slight importance of toes in ordinary locomotion, he suggested dividing the numerous digital tendons close to the metatarso-phalangeal articulation. Owing to his observation on the perfect restoration of ligaments of great mechanical importance, he though it expedient in subluxation of the astragalus to consider as an alternative to resection, the free division of the lateral and posterior ligaments and the replacement of the bones which should under the persistent influence of the modeling pressure and adaptive shortening result in a restoration of the articular functions.

Nerve Affections.—Dr. E. D. Fisher in speaking of the neurological aspect of talipes said, that the only class of talipes interesting to the neurologist was that class originating from lesions of the brain, spinal cord or peripheral nervous system. The two main clauses of talipes of this class were diseases of the motor tracts of the brain and spinal cord. Another form of talipes was that due to infantile spinal paralysis. Certain definite symptoms differentiate true congenital clubfoot from that of cerebral or spinal origin. In the deformity resulting from central nerve disease were found reflex disturbances usually exaggerated reflexes associated with spastic conditions of the muscles, and commonly the Babinski symptom—the extension of the toes on irritation. This latter phenomenon associated with exaggeration of the patellar and knee jerk always pointed to disease of the pyramidal tracts and is present whenever there is disease of the lateral tracts, in cerebral hemiplegia in the later stages; in the secondary changes following myelitis; in lateral and multiple sclerosis. In congenital clubfoot on the contrary there was no central nerve disease, therefore no disturbances of the ordinary physiological actions of the spinal cord and brain, hence no disturbances of the reflexes. In making a differential diagnosis between the congenital type of clubfoot and clubfoot due to infantile spinal paralysis, he said the muscular, electrical reactions determined the diagnosis.

Tendon Transplanting.—Referring to treatment, he said of late years interesting experimental work had been done. In cases of spastic paraplegia, for a long time neurologists were opposed to operation, but now he recommended section of tendons, and putting patients in a condition to walk. He referred to transplantation of tendons to opposite muscles or muscles of opposed functions, such as transplanting a flexor tendon to an extensor muscle or *vice versa*. He referred to a boy with central hemiplegia who could not extend his hand. The extensor tendon was transplanted with the result of giving the boy a useful hand.

Dr. Fisher said that deformity could easily be prevented in the early stages of infantile spinal paralysis by mechanical appliances. In the other class of cases in which there was a progressive condition possibly affecting the lateral or motor tracts, more difficulty arose, but he thought surgical treatment with possibly transplantation of tendons of opposite groups of muscles a justifiable procedure.

Non-Operative Treatment.—Dr. Newton M. Shaffer spoke of the non-operative treatment of clubfoot. He said he was accustomed to divide his clubfoot patients into three classes: Vertical, anteroposterior and transverse. By careful study of each case and by making each instrument an individual prescription to fit the given case he had achieved results which at first appeared impossible. The necessity for operation was getting further and further away. He said in the first class of cases of ordinary clubfoot without much deformity, good results could be accomplished by manipulation massage, electricity or perhaps some form of walking apparatus. The careful carrying out of non-operative treatment in these cases should result in cure in a year's time. In the second class where the deformity is greater, especially in equino-varus resistance is present which may be osseous, or fibrous. Experience here was necessary to determine whether operative or non-operative measures should be adopted. It was difficult to give any positive rule, however, although he was inclined to agree with the late Dr. Sayre and not operate if the lesion could be traced to a cerebral source. The rule had exceptions. In the third class, the resistant, some form of operative procedure was usually indicated. This class fell into the hands of the general surgeon.

Referring to cutting the tendo Achillis he said he did not cut when, in taking hold of the foot, he felt the resistance gradually give way.

While he admired Dr. Berg's theory as to the etiology of talipes, he failed to see in conditions found in a child three of four years old, if there was no pathological condition, why

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there was delayed growth of muscle. There must be some degeneration or change in the nerve power to account for the delayed growth. He said there was no wide gulf between those who operated and those who did not, but he urged more study of the mechanical principles of treatment and the looking upon apparatus in the light of prescriptions.

Age as a Factor.—Dr. A. M. Phelps, in speaking of the operative treatment of clubfoot, said that in considering when and why to operate nothing had been said regarding age of patient. If a rigid foot occurred in a child two months of age and that same rigid foot in a child of six years there was a vast difference. In the two-months-old baby the condition could be cured by the mechanical, non-operative treatment; in the older child such a thing was impossible. For that reason he believed all cases should be divided into classes according to age and deformity. In a certain type of talipes in new-born children the human hand was the best instrument and the deformity could be cured by manipulation before the child was nine years old. In other cases, even after four months there was great resistance and operation was required the same as at the age of six years. Operations on the soft parts are all that were indicated up to a certain age and to a certain degree. In a child of four months a subcutaneous tenotomy was all that would be required in the majority of cases, but having once commenced to operate the foot must be straightened at the expense of a more extensive operation. At the age of two or three years instead of applying apparatus for a year or so he advised subcutaneous tenotomy observing the rule to get the foot straight.

Regarding open operation he said frequently surgeons neglected to carry out the necessary after-treatment. He objected to the operations when bone was removed, such as removing the astragalus which caused shortening of the leg; or the removal of a V-shaped portion from the tarsus which shortened the foot. He said he resorted to subcutaneous tenotomy and if this was not sufficient to allow of straightening the foot, he made an open wound and cut whatever resisted. Occasionally he found it necessary to take a "V" out of the os calcis; occasionally the deformity was so great that nothing short of amputation was indicated. He advocated thorough operative measures rather than spending years with mechanical appliances and subcutaneous tenotomies.

Dr. Phelps then presented Dr. Hunthy upon whom he had operated ten years ago. Dr. Hunthy stated that treatment for double talipes equino-varus was begun at the age of sixteen years. He had the tendo Achillis, plantar fascia and tibialis posticus tendon divided four times; had worn various forms of apparatus until he was forty years of age, suffering more or less pain from the treatment. Dr. Phelps operated by the open method. He now could walk well and without fatigue.

Dr. George R. Elliott asked what subjective symptoms Dr. Hunthy had had since the operation. Dr. Hunthy replied none except delayed sensibility which lasted two years. Dr. Elliott asked how Dr. Phelps classified the foot at time of operation. Dr. Phelps said it was a case of talipes equino-varus of the third degree. The foot turned almost backward. Dr. Elliott asked if any noticeable change had occurred in the atrophied muscles since the operation. Dr. Phelps replied he did not think there had been any change since the operation.

Operative Risks.—Dr. A. R. Judson said that there was a risk in operating of impairing the innervation of a part below the incision. He had seen cases which showed an improvement in shape with an increase of disability. It was better to pay more attention to the treatment of congenital clubfoot in the newborn than to wait until the lapse of time had changed it to inveterate resistant relapsed neglected or ill-treated clubfoot. Taken in this way, it was among the easier orthopedic problems. The formative condition, the rapidity of growth and the freedom of the foot from the weight of the body made it almost impossible to avoid a good result if due attention were given. Before the child tried to stand, the deformity might easily, and should be thoroughly, overcorrected by the application of a lever, however constructed, a point of pressure being applied alternately against the varus and the equinus with two points of counterpressure above and below. And when the child began to stand a walking brace was necessary which was still a lever, but so applied that the foot was to be held on the valgus side of the plane dividing varus and valgus so that the patient could stamp his foot straight at every step. Braces should be made of tractable metal to be gradually made straight and later more and more valgus, the foot keeping pace with this movement. The varus could thus be completely and permanently reduced and the equinus could be so far overcome as to be practically entirely absent. The necessity of operating in congenital clubfoot was a confession of failure at some time in the history of the case.

BOOKS RECEIVED.

The MEDICAL NEWS *acknowledges the receipt of the following new publications. Reviews of those possessing special interest for the readers of the* MEDICAL NEWS *will shortly appear.*

AFFECTIONS CHIRURGICALES DU TRONIC, MAMELLES, ORGANES GENITAUX DE LA FEMME. By Dr. POLAILLON. 8vo, 748 pages. Illustrated. Octave Doin, Paris.

THE TECHNIQUE OF SURGICAL GYNECOLOGY. By Dr. A. H. GOELET. 8vo, 340 pages. Illustrated. International Journal of Surgery Co., New York.

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SPECIAL ARTICLE.

by J. Carl Huber M.D.

AN HISTORICAL SKETCH OF THE DEPARTMENT OF MEDICINE AND SURGERY OF THE UNIVERSITY OF MICHIGAN.

THE Department of Medicine and Surgery of the University of Michigan recently completed the fiftieth year of its existence; a brief review of the more important facts bearing on its establishment and development would therefore seem timely. The fact that this medical school was the first to be established as a department in a State University, and is now one of the very few medical schools founded in a comparatively small inland city, which has shown a constant growth from its beginning, gives it a unique position and must of necessity attach some interest to its history.

Medical Building, University of Michigan, as completed in 1865.

In an act, passed March 18, 1837, providing for the organization and government of the University of Michigan, we read in Section 8 that the University shall consist of three departments: (1) The department of literature, science and the arts; (2) the department of law; (3) the department of medicine. This Section further states that in the department of medicine there shall be established the following professorships: "One of anatomy; one of surgery; one of physiology and pathology; one of the practice of physic; one of obstetrics and diseases of women and children, and one of materia medica, and jurisprudence." No steps were taken, however, to carry out that part of this measure relating to the establishment of the medical department until 1847, when a committee of the Board of Regents, of which Dr. Zina Pitcher was chairman, urged its immediate organization; they reported at some length as to methods and aims, calling especial attention to the necessity of requiring an adequate preparation before the study of medicine was undertaken. The medical department was, however, not opened until October, 1850. The qualifications required for admission at the time of opening were "A good English education, the knowledge of natural philosophy, the elementary mathematical sciences, and such an acquaintance with the Latin and Greek languages as will enable the student to appreciate the technical language of Medicine and read and write pre-

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scriptions." The course of lectures extended from the first Wednesday in October to the third Wednesday in April. Four lectures were given daily, except on Saturdays, which were occupied by the alternate hearing and criticism of these. To be admitted to the degree of Doctor of Medicine the student was required to show evidence of having pursued the study of medicine and surgery for the term of three years, including the time spent with a preceptor, attended two full courses of lectures, submitted a thesis and passed an examination held at the end of the term. An allowance of one year from the term was made in favor of college graduates.

Soon after the establishment of the Department of Medicine, the University of Michigan was singularly fortunate in obtaining as its first president Dr. Henry Philip Tappan, that prince of educators, to whom the educational system of Michigan, and indeed, of the country at large, owes so much. He entered upon his work at Michigan University after he had learned to appreciate the Prussian system of education. His broad conception of what a university should be has as yet been scarcely realized in America. To what extent his influence shaped the policy of the medical department in its early days, can now be only conjectured. It seems justifiable, however, to assume that the following passage which appeared for a number of years in announcements of the department of medicine during its early history, expressed his hopes and desires: "The Medical Faculty, in common with all the enlightened members of the professions, desire, earnestly, that a rule might prevail in our country like that which prevails in the Universities of Prussia, by which a liberal education should be made the necessary introduction to professional study. The Sciolist easily runs into the Empiric; but, he who has obtained a thorough scientific discipline knows how to discriminate between visionary conjecture and established truths."

Before the opening of the medical school in 1850 the Board of Regents authorized the erection of a medical building and a portion of the present home of the medical department was built, thus making provision for lecture rooms and the then necessary laboratories. A faculty composed of five professors had been selected sometime before the date of opening, of whom two, namely Drs. Sager and Douglas, were transferred from the faculty of the Department of Science, Literature and the Arts to that of Medicine. In the calendar of 1850-51 the first faculty was announced as follows: Abram Sager, A.M., M.D., President and Professor of Obstetrics and Diseases of Women and Children; Silas H. Douglas, A.M., M.D., Professor of Chemistry, Pharmacy, and Medical Jurisprudence; Moses Gunn, M.D., Secretary and Professor of Anatomy and Surgery; Samuel Denton, M.D., Professor of Theory and Practice of Physic and Pathology; J. Adams Allen, M.D., Professor of Therapeutics, Materia Medica and Physiology; R. C. Kedzie, A.B., Acting Demonstrator of Anatomy. This faculty was early strengthened by the addition in 1854 of Alonzo B. Palmer, M.D., Professor of Materia Medica, Therapeutics and Diseases of Women and Children; and Corydon L. Ford, M.D., Professor of Anatomy. In 1860, upon the death of Dr. Denton, Dr. Palmer became Professor of the Theory and Practice of Medicine, of Pathology and Materia Medica; Dr. Sager, Professor of Obstetrics and Diseases of Women and Children; and Dr. Ford, Professor of Anatomy and Physiology. An extended personal sketch of the members of these faculties, interesting and instructive

ABRAM SAGER.
(1850–1875)

though it might be, would lead the writer beyond the limits prescribed. Yet, since not bricks and mortar, but more especially able teachers make a real university, some brief reference to the worth of these men would seem fitting in this connection.

Dr. Sager was educated at the Rensselaer Polytechnic Institute, giving especial attention to Botany and Zoology; and subsequently extended his studies under Marsh and Ives, at New Haven. His medical education was obtained at New Haven, Albany and Castleton, Vermont, from which school he graduated in April, 1855. Soon after coming to Michigan, he was appointed chief in charge of the Botanical and Zoological Department of the Michigan Geological Survey. He served as Professor of Botany and Zoology in

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this University from 1842 to 1850, after which time he became a member of the medical faculty. He was, however, not only a thoroughly trained scientist, truly imbued with the scientific spirit, but also a most skilful physician and dextrous operator, performing many major operations, among which may be mentioned a Cæsarian section, performed in the University Hospital in 1869. His medical writings contain frequent references to French and German literature and show a breadth of knowledge, which would be commendable even at the present time. He was for many years President or Dean of the Medical Faculty, and for a number of years gave the Lectures in physiology. "Dr. Sager's personal character, his eminence in his profession, and his faithful and able service to this University for thirty-three years were such as to place his name high among those whom it is the privilege of the University to honor."

SILAS HAMILTON DOUGLAS.
(1850–1877)

Dr. Douglas is especially to be remembered as one of the first teachers of science in America to appreciate and utilize the laboratory method of teaching. From its small beginning in 1856, the chemical laboratory soon grew under his wise management until for many years it deserved the reputation of being one of the largest and best equipped on this continent. This laboratory was open to medical students from its very beginning. (The work so ably begun by Dr. Douglas has been fostered and further developed by Professor A. B. Prescott, for a time his co-worker, then his successor, and now the oldest and most respected member of the present medical faculty.)

Dr. Moses Gunn was graduated from the Geneva Medical College in 1846. Soon after he came to Ann Arbor and gave a course of lectures on anatomy, accompanied by dissection and demonstrations. He, perhaps more than any other member of the original medical faculty, deserves the distinction of being called the father of the department which he helped to establish, and in which he labored so many years. The following brief eulogy, which I quote from the writings of another, describes admirably his bearing and worth: "Tall, manly and graceful in his bearing, with an eye which commanded and secured the respect of students and the obedience of patients, with well-developed forehead which proclaimed the owner's ability to plan and determination to win success, with a trained hand, which dared to do many operations, the

MOSES GUNN.
(1850–1864)

landmarks of which were not then described in the works of surgery." Of his writings, that on "The Philosophy of Certain Dislocations of the Hip and Shoulder, and their Reduction," is of interest in this connection, since the observations reported in this contribution were made while he was a teacher at Ann Arbor. His articles on this subject were reprinted in pamphlet form in 1859, and this "little pamphlet of less than 25 pages contains more learning than volumes that many others have compiled," as has been said by one of the foremost surgeons and writers of the present generation.

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Dr. J. Adams Allen was for two years Professor in the La Porte Medical College before receiving his appointment at the University of Michigan as member of the first medical faculty. He was a most scholarly man and versatile lecturer. It was often said of him that he could with distinction have filled any chair in the department. It is of interest here to note, not only as concerns the history of the medical department of this University, but also the history of American medicine, "That the whole subject of reflex nervous influence, of which excito-motor and excito-secretory action are but constituent parts, was taught as early as 1850 in the University of Michigan," by J. Adams Allen, "and in his teaching and writings are to be found the only explicit and comprehensive exposition of the whole

ALONZO BENJAMIN PALMER.
(1854-1887)

subject of reflex nervous action that has ever fallen under my observation."

The death of Dr. Denton in 1860, removed him only too early from the midst of this remarkable group of men. Before becoming a member of the first faculty he had served with distinction as Regent of the University and as State Senator.

Dr. Alonzo B. Palmer was graduated in 1839 from the College of Physicians and Surgeons of the Wsetern District of New York. Soon after graduation he came to Michigan, where for a number of years he led the arduous life of a country practitioner. The winters of 1847-8 and 1848-9 he spent in post-graduate work in New York and Philadelphia respectively, and during the former winter attended the courses of lectures on embryology given by Agassiz. In 1850 he established himself in Chicago and in 1853 was appointed city physician, which office he filled with great distinction during the severe cholera epidemic in 1854. In 1852 he received the appointment of Professor of Anatomy in the University of Michigan, which chair he was preparing himself to fill, when in 1854 he was called as Professor of Materia Medica, Therapeutics and Diseases of Women and Children. The years spent in general practice, his post-graduate study, his work as city physician in one of the largest of the then western cities, gave the inquiring and reflective mind of Dr. Palmer abundant opportunity to expand and mature, and fitted him for the work to which he had been called. Soon after coming to Ann Arbor his fund of information was further extended by post-graduate work in England, supplemented later by further visitations of European hospitals. The studious habits formed in his younger days developed with his years. He was a constant reader of the current medical literature of the day, and enthusiastically investigated all additions to the science and art of medicine. In his clinic, however, he was at his best. A most careful and accurate diagnostician himself, he constantly strove to establish similar habits in the student under his care. His method was to study each case thoroughly, rather than to exhibit many patients. Of his contributions to medical literature we may specially mention his "Science and Practice of Medicine," a work which appeared in 1883 and comprises two large volumes.

Dr. Corydon L. Ford graduated from the Geneva College of Medicine in 1842, and was at once appointed Demonstrator of Anatomy in that College. In 1846 he was elected to the same position in the newly established Medical Department of the University of Buffalo, and in 1849, Professor of Anatomy in the Medical School at Castleton, Vermont. Dr. Ford and Dr. Gunn were contemporary students and for a time roommates at Geneva. During these days, it is stated, Gunn often said, "I shall be Professor of Surgery in a medical school and you shall be Professor of Anatomy in the same institution." Happily this prophecy, unlike many prophecies, became true in 1854, when Dr. Ford entered on his work as Professor of Anatomy in this school, continuing until the time of his death, in 1894. Thus from the time of his graduation to the time of his death, for nearly three score years, he was a teacher of Anatomy, and as a teacher he excelled. He brought to the class room his store of knowledge, gathered not so much from books, as from personal observations, numerous preparations illustrating all phases of the topic discussed and a zealous enthusiasm, which was always imparted to his class, stimulating each student to become an eager listener and

a thoughtful and inquiring learner. His time was so occupied by teaching and the preparation of many valuable museum preparations, illustrating human and comparative anatomy, as to prevent his making many important contributions to medical science. It must be considered a most fortunate circumstance that both Dr. Palmer and Dr. Ford were able to labor more than a generation in this institution. The former for many years, in addition to his teaching, honored the deanship of the Department of Medicine, ever striving for its expansion and betterment and inaugurating many advances, the latter occupied the deanship during the closing years of his life. With these men labored for briefer periods, Dr. Edmund Andrews, for a time Professor of Comparative Anatomy and Demonstrator of

CORYDON L. FORD.
(1854-1894)

Anatomy and Dr. S. G. Armour, for a number of years Professor of the Institute of Medicine and of Materia Medica. With great wisdom and good judgment did this faculty inaugurate the work of this department.

In this brief sketch it will not be possible to do more than mention the names of men forming a part of the teaching force of the faculty of the Department of Medicine during the third and fourth decades of its existence; the transition period between the early faculty and the present one. In 1867-68 Dr. W. W. Green was Professor of Surgery. He was one of the first, perhaps the first American surgeons to extirpate the thyroid gland. In 1868-69, Dr. H. F. Lyster was Lecturer on Surgery. The following two years this chair was occupied by Dr. A. B. Crosby, a brilliant young surgeon, whose old coat—lest his better garment be soiled with blood—bore the marks of many major operations. He was succeeded in 1871 by Dr. T. A. McGraw, himself succeeded in 1872 by Dr. Donald Maclean. Dr. George E. Frothingham was appointed Demonstrator of Anatomy in 1867, Lecturer on Ophthalmology in 1870, later assuming the duties of Professor of Ophthalmology and Materia Medica and Therapeutics. In a comparatively short time, after he assumed the charge of the department of ophthalmology, it became a distinctive feature of the medical department. His interest in medical education caused him to take an active part in all attempts looking toward the general elevation of the standard of requirements for the degree of Doctor of Medicine. He resigned his place in the faculty in 1889. Dr. Henry S. Cheever was for a time Demonstrator of Anatomy and in 1870 was appointed Professor of Materia Medica and Therapeutics, which chair he occupied until 1876, when ill health compelled him to sever his connection with the department. Dr. E. S. Dunster was appointed Professor of Obstetrics and Diseases of Women in 1875, succeeding Dr. Sager. He was a learned teacher and a most brilliant lecturer, using the purest English, and arranging the subject matter most logically. In 1877 Dr. J. W. Langley was appointed Professor of General Chemistry in the medical department, which position he filled with distinction for about ten years. These and others that might well be mentioned here, did space permit, carried on the work, so well begun by their predecessors.

The number of students in attendance in this medical school has from the date of its opening to the present time, shown a steady and normal growth, presenting, however, one period in which the number showed a marked decrease. In 1850-51 there were enrolled 90 students, of which six received the degree of Doctor of Medicine at the close of the session. The enrollment increased rapidly in the succeeding years, reaching the number 525 in 1866-67. During the following ten years the registration decreased gradually, the year 1876-7 finding only 285 students in attendance.

The large number in attendance in 1866-7 (525) is in part accounted for by the fact that many young men, who, during the civil war acted as hospital stewards, entered upon the study of medicine soon after its close. The decrease in the number of students during the decade following 1866-7 has been attributed to the agitation resulting from an endeavor to establish a school of homœopathy in the University. This department was established in 1875. The proceedings of the Michigan State Medical Society, during the years in which this discussion was carried on, clearly reveal the attitude of the profession in Michigan toward this question. The American

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Medical Association participated in the strife and for a number of years this matter was the subject of bitter discussion before this body. A settlement was reached at the Atlantic meeting in May, 1879, as a consequence of an able and most eloquent argument made by Dr. E. S. Dunster, then a member of this faculty. In order to appreciate the influence that this discussion had on the number of students enrolling in this department, it must be remembered that both the State and National Association attempted to prevent the graduates and teachers of this medical school from holding membership in these bodies. This was due to the fact that the grant made for the purpose of establishing a homœopathic department in this university was insufficient to provide for a full faculty and consequently

EDWARD SWIFT DUNSTER.
(1874-1888)

their students were required to receive instruction in the Department of Medicine in all the subjects not taught in the homœopathic department; hence the American Medical Association, "considered it derogatory for any physician or teacher to aid in any way the medical teaching or graduation of persons knowing them to be supporters and intended practitioners of some irregular or exclusive system of medicine."

Women were first admitted to the Medical Department in 1870, but for a number of years the instruction given the two sexes was separate, each professor after giving his lecture to the male students, repeating the same, in a small room, to the female students.

During the first and second decade of the existence of this department, the annual course of lectures was begun on the first Wednesday in October and continued until the third Wednesday in April. The candidate for a degree was required to have attended two full courses of lectures and to have spent one year with a practitioner. An allowance of one year from the term of study was made in favor of graduates of approved universities and colleges. In 1877 the course of study was extended to two years of nine months each and in 1880 three years of study of nine months each became necessary before a candidate could present himself for final examination. In 1890 the compulsory term of study was extended to four years of nine months each. The three years' course of nine months each allowed a graded curriculum to be established and the addition of a fourth year permitted further gradation and gave opportunity for extending laboratory teaching. The main features of the curriculum, in operation since 1890, have been sequence and concentration in the subjects presented, abundant laboratory teaching and general survey of each branch by means of lectures, recitations and demonstrations.

The qualifications required for admission were for many years essentially the same as those found in the first announcement. These were, as has been previously stated, a good English education, a knowledge of natural philosophy and of elementary mathematical sciences and of acquaintance with Latin and Greek. Greek was dropped from the list of entrance requirements in 1859. In 1890 the requirements for admission were advanced to a diploma from the classical or Latin course of an approved high school. This was modified in 1896 by requiring instead of a classical or Latin diploma, a certificate of having passed certain prescribed subjects. The list embracing a good knowledge of English, mathematics through geometry, general and American history, physics or chemistry, botany and zoology or biology, and Latin Grammar and Cæsar. To this list has been added plane trigonometry and a reading knowledge of either German or French, and in order to meet the entrance requirements in the sciences named, the entering student must now present a certificate showing that the courses pursued were accompanied by laboratory work. (A reading knowledge of both German and French will soon be demanded as an entrance requirement.) In thus specifying the subjects required to meet the entrance qualifications the aim has been to regulate as far as possible the education of those intending to pursue the study of medicine. The end desired, namely, a better training before the study of medicine is undertaken, would seem to be more readily attained by this means, than by making residence in a college or university for a prescribed period, without special reference to the curriculum pursued, a prerequisite to the study of medicine.

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The importance of laboratory instruction was recognized by the founders of this department, and since its beginning this method of teachings has formed a prominent feature of its curriculum.

The first laboratory to be established was the anatomical, occupying rooms long since used for other purposes. Since 1880, by State enactment, provision is made for anatomical material. In 1856, a portion of the present chemical laboratory was built, and since that time medical students have received laboratory instruction in chemistry and the analysis of urine. In 1877 the Legislature voted $3,500.00 for the purpose of furnishing equipment for a histological and physiological laboratory. For a number of years the instruction in this laboratory was mainly in microscopic anatomy. In 1881 the study of physiology was further provided for by the appointment of Dr. Henry Sewall, first as Lecturer, then as Professor of Physiology. While in charge of this laboratory Dr. Sewall brought it into prominence by the publication of a goodly number of researches, not the least of which was one showing that pigeons could be immunized against the poison of the rattlesnake (1887). He was therefore one of the first to use a chemic agent in the production of artificial immunity. In 1878 an extended laboratory course in physiological chemistry was added to the curriculum. In the same year the laboratory of electrotherapeutics was established, the first of its kind in America. A laboratory course in this subject has been required of the students since 1890. In 1879 practical instruction in pathology was inaugurated. The Laboratory of Hygiene was built and equipped at the request of the Michigan State Board of Health in 1888. The objects as set forth in the memorial presented to the Board of Regents, were as follows: (1) Original research in the causation of disease; (2) the examination of food and water suspected of having caused disease; (3) the instruction of students. Since 1888 an extended course in bacteriology has formed a part of the required work of each student. The laboratory of clinical medicine was established in 1891, and was at that time the only officially recognized laboratory of its kind in America. Its primary function is that of carrying out the instrumental investigation of disease. Senior students have access to this laboratory and use it in working up the cases assigned them in the clinic. In 1892 was established the surgical laboratory, and as a part of his course each student performs laparotomies, ligates vessels, etc., on living animals, giving the same attention to antisepsis, asepsis and dressings as is bestowed on similar operations in man. In the same year was established the pharmacological laboratory. In this laboratory students are given the opportunity to study the effects of drugs on living animals and are taught the methods by which drugs are examined.

During the first two and one half years of his residence in this department each student spends four hours each afternoon, Saturday excepted, in laboratory work. The classes are divided into sections, each section working continuously for a given period in one laboratory, the sections alternating at the end of the laboratory period, each in turn taking up new work.

During the first few years of the existence of this department, clinical instruction received comparatively little attention. For a number of years after the opening of this school, the general announcement contained this statement, a portion of which might be read with profit even at this day: "The hasty walk through the wards of a hospital (necessarily hasty if entered upon at all during the lecture term) furnishes at best but a poor substitute for the close and accurate study of cases as they occur in the professional round of the private practitioner." It should be remembered that at that time a period of study under a preceptor formed a part of the educational requirements of a candidate for the degree of Doctor of Medicine. In 1857 there was established in Detroit in connection with this medical school, a school for clinical instruction, under the direction of Dr. Zina Pitcher and Dr. A. B. Palmer, the term beginning the 15th of June and ending the 30th of August. This course was, however, abandoned in 1859. In 1869 a large dwelling house on the college grounds was given to the medical department for a hospital building and was fitted up for that purpose. In 1876 two large pavilions were added to this building, thus greatly increasing the hospital facilities. The year 1891 saw the completion of the new University Hospital, situated a short distance from the campus. The faculty has thus had under its control for more than thirty years, a hospital which could be utilized without restriction for clinical instruction; the patients coming to the hospital with the full understanding that they would receive every care, but also, that they would be used for purposes of instruction in all legitimate ways. Students are taken to all the wards of the hospital, take histories, dress wounds, etc., and are able to study disease and observe treatment under the most favorable circumstances. In 1893 demonstration courses in clinical medicine, surgery, obstetrics and gynecology, ophthalmology and nervous diseases were inaugurated and became a part of the required work of each student. This work is given to the third year students, the class being divided into Sections numbering about twenty, each section confining itself for two hours, four times each week, for a period of six weeks to one department of clinical

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work, at the end of which time the sections alternate and a new subject is entered upon.

The medical library of this University was started in 1854 by a special appropriation of $66.00. From this small beginning it has grown to a valuable working library of somewhat more than 10,000 volumes, not including a large chemical library. It now contains complete files of nearly all the important periodicals, academy reports, proceedings of societies, etc., pertaining to the science and art of medicine, published in this and foreign lands, also numerous handbooks and reference books and other works of interest to the student of medicine. The value of such a library will be readily appreciated by any one engaged in the pursuit of the science of medicine, for a good library is as essential to the research student as are laboratories or other facilities for the prosecution of such work.

ORIGINAL ARTICLES.

SOME ERRORS IN THE EXAMINATION OF URINE.[1]

BY LOUIS HEITZMANN, M.D.,
OF NEW YORK.

THERE are probably few practitioners who do not make examinations of urine more or less frequently, although chemical tests for albumin and perhaps sugar and microscopical examinations for casts are the only tests resorted to by the largest number. Whenever albumin is found a diagnosis of nephritis is unfortunately made by many without the use of the microscope; while others, who take the trouble to examine for casts, will, if the latter are not found, consider the case one of so-called "functional albuminuria."

Although the presence of albumin, even in small amount, is undoubtedly of some significance in every case, it does not necessarily follow that a lesion of the kidney must exist at the same time, since the presence of pus corpuscles, no matter from what cause, is sufficient to give a positive reaction. A mild cystitis, a urethritis, prostatitis or even a simple vaginitis may show albumin in the urine, while it is a well-known fact that even in grave kidney lesions, such as cirrhosis, the urine may at times contain such a minute amount of albumin as to escape detection completely, or it may even be entirely absent at certain hours of the day.

This being the case, it is plain that no diagnosis of nephritis should ever be made without the aid of the microscope, although the absence of casts, with the presence of a varying amount of albumin, does not exclude a kidney lesion; in cases of catarrhal or interstitial nephritis we rarely will find casts, and even in cirrhosis of the kidney, the termination of a chronic interstitial nephritis does not, as a rule, give casts in the urine.

Tests for albumin being so universally resorted to, it is surprising to see the large number of tests recommended as the best, and still more surprising to notice that occasionally two observers will not agree as to the presence or absence of albumin in a given case. While some continually recommend heat tests as the only reliable ones, others will tell you that only cold tests must be used, and give as their reason the precipitation of phosphates by simple heat and the fact that, unfortunately, some physicians will rely upon such heat tests alone in diagnosing the presence of albumin. Although different cold tests will undoubtedly show albumin when present in large amount, they will often not show it when present in small quantities only; the errors made with such tests are great since different substances may also give a reaction similar to that for albumin.

Heat tests are under all circumstances the most reliable, provided that acids are used to differentiate between phosphates and albumin. The acid most frequently used for this purpose—nitric acid—should, however, not be employed, since, if small amounts only of albumin are present and too much acid be added, no precipitation takes place. It is of the greatest importance in many cases that even the faintest traces of albumin be discovered, and the most reliable test for this purpose is heat and acetic acid. After boiling the urine thoroughly, two or three drops of a solution composed of equal parts of glacial acetic acid and water should be added, and, if no pronounced precipitation takes place, some unboiled urine poured into a second test-tube, the two being thus compared in a moderately strong light. In this manner even the faintest traces of albumin will at once become apparent, when they would not be found with any other test. Pure glacial acetic acid must not be used, the same objection holding good here as with nitric acid.

Since albumin will usually be found when pus corpuscles, even in comparatively small numbers, are seen under the microscope, we can soon convince ourselves by different tests, that the acetic acid is the most sensitive of all, giving a positive reaction where other tests fail. In cases of hyperemia of the kidney, or irritation of the pelvis of the kidney, due to lithemia or oxaluria, which as a rule contain only traces of albumin, these are frequently not discovered with the nitric-acid test.

Chemical tests for albumin are undoubtedly of the greatest practical importance, but microscopical examination of the urinary sediment is no less so, and it can never be sufficient to look for casts only and to pay no attention to the other features. Casts, however, being most commonly examined for, and supposedly universally known, it seems hardly possible that differences of opinion as to their presence in a given case should exist, yet this is so. We hear it stated that, although true casts are most commonly found in pathological lesions of the kidney, they may be seen in individuals in whom the kidneys are perfectly normal and no other features whatever can

[1] Read before the Medical Association of the Greater City of New York, November 12, 1900.

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be found in the urine, as well as in pathological conditions of other organs, and even as coming from the seminal tubules. If this is correct, we do not as yet know what casts really are. The difficulty seems to be in not differentiating between true and false casts. True casts can only be derived from the uriniferous tubules when a pathological condition exists in the kidneys, and are the products of an albuminous and fibrinous exudation from the blood-vessels and of broken-down and disintegrated epithelia from the tubules. With the exception of waxy casts, their structure is the same, whether they are purely hyaline, or contain upon them epithelia from the uriniferous tubules, red blood-corpuscles, granules or fat globules.

Hyaline, epithelial, blood, granular, fatty and waxy casts are the only true casts, the first three being found in acute, the latter three in subacute and chronic inflammations. True granular casts are disintegrated epithelial casts, and we frequently see the remains of epithelia upon them. Such casts, as a rule, are never found until the inflammation has lasted six weeks or two months, although exceptionally, especially in cases of nephritis after contagious diseases, such as scarlet fever and diphtheria, they can be seen in small numbers in the second or third week of the kidney lesion.

Fatty casts are secondary products of previous epithelial and granular casts, the fat globules being secondary changes of the granular protoplasm, and when present in large numbers denote not only chronicity, but also a fatty degeneration of the kidney. Waxy casts, which are chemically different from the other true casts, always indicate a waxy or amyloid degeneration of the kidney, and are found in chronic constitutional diseases, such as tuberculosis and syphilis. It is an error to suppose that such casts have no special significance, can be found in acute inflammations, or even, as stated in some text-books, without any inflammation whatever.

In speaking of epithelial casts, we mean only hyaline casts, containing upon them a varying number of epithelia from the uriniferous tubules, and not simple conglomerations of epithelia resembling casts. So-called pus casts, that is, conglomerations of pus corpuscles, cannot be called casts at all. In epithelial casts the epithelia will be different when the cast comes from the convoluted, the narrow or the straight collecting tubules. The convoluted tubules of the kidney are lined by cuboidal, the narrow tubules by flat, and the straight, collecting tubules by columnar epithelia.

Casts vary greatly in size, the smallest or rather narrowest being those from the narrow or looped tubules; the second size those from the convoluted tubules of the second order or distal convoluted tubules; while the largest come from the straight, collecting tubules. Casts from the proximal convoluted tubules or those of the first order, directly emanating from the tufts, are never found in urine, since they cannot pass the looped tubules. These sizes are undoubtedly of value in determining the prognosis of a given case. When small casts from the narrow tubules are present alone, the case is, as a rule, a comparatively mild one; when a moderate number of casts from the convoluted tubules are found with those from the narrow tubules the case is of moderate severity, while casts from all three tubules, especially a large number of those from the straight, collecting tubules, denote an intense case with a doubtful prognosis.

From what has been said about the nature of true casts, it is perfectly plain that they can never be found in urine without some other evidences of an inflammation, such as pus-corpuscles, red blood-corpuscles and epithelia. Not infrequently, however, we read reports of urine examinations, which state that no albumin is present, pus-corpuscles, red blood-corpuscles and epithelia are absent, but hyaline and granular casts found in varying numbers, and a diagnosis of a parenchymatous nephritis given. If we examine such urine carefully, we will see a small or moderate number of pale formations, which at first glance resemble hyaline casts, but which, if focused sharply, will be found traversed by extremely pale, fine threads, which may become plainly visible only after shading the light to a certain degree. These formations are not true casts at all, but cylindroids or mucus-casts, that is, mucus-threads resembling casts which may be derived from any portion of the genito-urinary tract, such as the bladder, prostate gland or vagina, and are therefore entirely independent of a nephritis. Mucus, normally present in every urine, is always increased in irritations or inflammations, more especially in those from the genital tract.

Although such cylindroids are at times quite long and irregular, tapering to a thin thread, they may be much more regular and then great care must be taken not to mistake them for hyaline casts, the more so since these latter, principally those from the looped tubules, may also be long, somewhat irregular and convoluted. It is, therefore, important to satisfy oneself of the nature of these formations, before diagnosing them as hyaline casts.

Not only are hyaline casts frequently said to be present when they are not, but the same is true of granular casts. It is well known that bacteria of a harmless character are often found in urine, especially in warm weather and in the urine of females. These bacteria can conglomerate upon mucus, and will then resemble granular casts, while in reality we have to deal with so-called bacterial casts only. In such cases mistakes can easily be avoided if the same care is taken as when looking for hyaline casts; sharp focusing will at once tell us that we have no granules, but cocci which have formed into masses. Individual cocci, as well as irregular groups, which are always present in such cases, still further clear up the diagnosis.

Cases in which these mistakes are made are, unfortunately, common, and not rarely perfectly

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healthy individuals are told that they suffer from a nephritis. A short time ago, a stout healthy young man, who had never been ill in all his life, and who was refused by a life insurance society on account of alleged presence of albumin and casts in the urine, was sent to the author by his physician for a diagnosis as to the condition of his kidneys, since there were no clinical symptoms whatever, to bear out the diagnosis of a nephritis. Upon examination of the urine, an excess of phosphates was found, but not a trace of albumin, no pus-corpuscles, no epithelia and no casts, though a small number of cylindroids and bacterial casts was present. The only chemical test resorted to in this case had been simply boiling, without the addition of any acid, and in the microscopical examination the absence of any evidence of inflammation was entirely disregarded.

Within the last few years the centrifuge is being considerably used in urinary examinations and mistakes are frequent. Both mucus and bacteria are abundantly found after centrifuging the urine, and cylindroids are met with more frequently. Since the centrifuge presents no advantages over the old method of allowing the urine to stand at rest for six or twelve hours, it should not be used, with the sole exception of examining for tubercle bacilli, which latter are undoubtedly more easily found in centrifuged urine, the centrifuged sediment showing bacteria in larger numbers than non-centrifuged specimens. Pus-corpuscles, epithelia and casts are just as abundant after natural sedimentation, and the errors considerably lessened.

Finally, it should be pointed out that the diagnosis of a nephritis does not necessarily depend upon the presence of casts in the urine, since these are almost invariably absent in interstitial nephritis. Pus-corpuscles, red blood-corpuscles and kidney epithelia are sufficient for a diagnosis, the latter being invariably one-third larger than the pus-corpuscles in a given case, and are the same as those found in epithelial casts. Such epithelia are never voided in health, and if care is taken to look first for pus-corpuscles, which are always the smallest granular corpuscles, mistakes cannot be made.

ACUTE TRAUMATIC MALIGNANCY.

BY WILLIAM B. COLEY, M.D.,
OF NEW YORK.

(Concluded from page 580.)

Case VIII.—Spindle-Celled Sarcoma of the Thigh.—H. M., female, aged thirty-nine years, with good family history. The patient struck the right thigh against the corner of a lounge in December, 1898. The region of the injury continued more or less painful and two weeks later a swelling was noticed which grew rapidly until December, 1899, when it had reached the size of a fist and was removed. There was a local recurrence in February, 1900. This grew rapidly and in June, 1900, was as large as a child's head. It was again removed. Microscopical examination showed the growth to be spindle-celled sarcoma. The disease returned in October, 1900, in spite of local treatment with the mixed toxins, and amputation just below the trochanter was performed on October 24, 1900.

Case IX.—Sarcoma of the Testis.—F. H., aged twenty-seven years; good family history. Was kicked by a horse in the right testis in August, 1896. One week later he noticed a hard, slightly painful nodule in the upper part of the testis. This did not increase in size much until a year and a half later, when he fell through a hayrack, again bruising the same testis. The testis was sore the following day, and one week later the patient noticed a marked increase in size of the old nodule. The tumor continued to grow rapidly, but was practically painless. In four months it had reached the size of a fist. I performed a very radical operation, opening up the inguinal canal and removing the cord beyond the internal ring. Although there was no apparent involvement nor enlargement of the glands, the disease recurred within the abdomen, and the patient died one year later. The tumor was a round-celled sarcoma.

Case X.—Sarcoma of the Groin.—C. D. C., male, aged thirty-nine years; good family history. Received a severe blow in the left groin on the sharp corner of a table. A small lump appeared at the site of the injury almost immediately, and never disappeared. There was but little increase in size during the year following, but at the end of this time it began to grow more rapidly until at the end of six years, it had reached the size of two fists, extending from the root of the penis to the anterior superior spine. It was removed by Dr. Armstrong, surgeon of Cawnpore, India. Although the disease was supposed to have been entirely removed, local recurrence quickly followed and within a few months there was evidence of metastatic invasion of the liver.

Case XI.—Sarcoma of the Upper Jaw.—M. H., male, aged twenty-four years; always in good health until March, 1898, when, while having a tooth pulled, a portion of the jaw was broken off just below the antrum. Two to three weeks later a tumor was noticed in the region of the injury. This increased rapidly in size and a few weeks later it was removed by Dr. J. D. Spencer, of Watertown, N. Y. The tumor proved to be a spindle-celled sarcoma of very rapid growth and high malignancy, closing with a fatal issue within a year. In this case it is possible that the disease existed prior to the injury, although the weight of evidence is against it.

Case XII.—Sarcoma of the Metacarpal

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Bone.—B. D., female, eighteen years of age. No history of heredity, and in perfect health upto August, 1890, received a severe blow upon the back of the right hand from a revolving chair in a parlor-car. A slight swelling appeared immediately. At the end of a week, instead of having decreased, it has slowly increased and become very painful. The patient consulted several physicians, but it was regarded as nothing more than a contusion. I first saw her in September, 1890, about six weeks after the injury. The wound then had the appearance of a periostitis, but incision under ether failed to find pus. Shortly afterward a piece of tissue was removed for microscopical examination, and it was found to be an alveolar round-celled sarcoma. A few days later I amputated at the middle of the forearm. Four weeks later there was a general recurrence and death followed six weeks later. This is a striking example of acute traumatic malignancy, because the tumor appeared almost immediately after the injury in a person in perfect health.

Case XIII.—Melanotic Sarcoma of the Thumb.—W. J. W., male, thirty-seven years of age. Perfectly well, with a marked hereditary history of cancer, three of his father's brothers having died of malignant disease, one of sarcoma of the shoulder, the other two of cancer of the tongue. On December 7, 1892, the patient injured his left thumb by getting it caught in a heavy office curtain; it immediately became swollen and painful. The swelling not subsiding, it was lanced on January 15th, and some pus evacuated. It continued red, swollen, and painful, and the root of the nail gradually became dark-colored. On May 15th a piece of tissue was examined microscopically, and found to be melanotic sarcoma, round-celled. The thumb was amputated by Dr. L. L. McArthur, of Chicago, on June 6th. Subsequent history: October 1st, a small, subcutaneous recurrence appeared in the forearm. Others followed in quick succession; during the next year more than 200 similar tumors were removed. The patient died in December, 1895.

Case XIV.—Sarcoma (Cylindroma) of Breast.—S. B., fifty-five years of age. Mother died of cancer at the age of sixty-seven, and grandmother died of a cancer of the uterus. The patient received a severe blow to the right breast in August, 1893, falling forward in an omnibus against the sharp end of an umbrella. One week later she noticed a contraction in the tissues at the site of the injury. Five or six weeks later a small bloody discharge appeared at the nipple. The induration and discoloration slowly increased, and in the following February, or five months later, the entire breast and axillary glands were removed. Recurrence quickly followed. During the next two years five or six other operations were performed for small local recurrences. Death followed shortly after an operation in August, 1896.

Case XV.—Sarcoma of the Breast.—M. M., female, aged thirty-one years, unmarried, with good family history, struck her breast against an iron bracket while acting as clerk in a dry-goods store. She noticed a swelling immediately after the injury, and this continued to increase in size. Five months later the tumor was removed by operation, recurrence quickly following; four months from the first a second operation was performed. The patient died eighteen months after the injury, from a supposed recurrence in the brain, five operations having been performed in the meantime. This case was operated upon by Dr. B. Gallaudet and Dr. William T. Bull; it was not seen personally by myself. It is of interest as it has an important bearing on the following case:

Case XVI.—Sarcoma of the Breast.—A. M., female, aged thirty-one years, a sister of the preceding case. The patient had always been in perfect health until August, 1896, when she received a blow upon the right breast. A few days afterward she noticed a lump at exactly the site of the injury. This grew rapidly, but it was not painful until November. In December, 1896, it became exceedingly painful and was growing with great rapidity. She consulted a physician, who advised internal treatment. On February 8, 1897, I saw her in consultation with Dr. William T. Bull. At this time the entire right breast was occupied by a spheroidal tumor about the size of a large cocoanut, markedly protuberant, slightly fixed to the chest wall, not involving the axillary glands. The skin was thin and glossy, and of a deep purple color over the most protuberant parts. The tumor grew with enormous rapidity and soon began to slough. The patient died of exhaustion in April, 1897, or seven months after receipt of the injury. It is of interest to note that in these two sisters the sarcoma developed immediately after an injury in both cases, the tumor occupied the right breast in both instances, and both were just thirty-one years of age at the time when the tumor developed.

Case XVII.—Sarcoma of the Femur.—J. N., female, aged eleven years, with good family history, had always been perfectly well until February, 1897, when she fell down a flight of stone steps striking upon the left knee. Pain and swelling immediately followed and continued over the outer condyle of the left femur. This grew rapidly and soon began to affect her general condition. Examination on July 28, 1897, or five months after receipt of the injury, showed the lower end of the right femur greatly enlarged, its circumference being sixteen inches while the corresponding measurement on the other side was ten inches. I amputated at the hip-joint on July 31st, at the Post-Graduate Hospital without previous exploration. The patient made a good recovery.

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Microscopic examination showed it to be a spindle-celled sarcoma.

Case XVIII.—Round-Celled Sarcoma of the Testis, Following Bicycle Injury.—G. S., male, twenty-nine years of age, with good family history, always perfectly healthy, received an injury to the left testicle from a bicycle fall in August, 1896. A swelling appeared in the testis in September and increased rapidly in size. The first operation was performed in June, 1897, by Dr. Millbank of Albany. Speedy recurrence in the cord and inguinal glands followed. Four operations have been since performed, two by myself, The erysipelas toxins were tried for three or four weeks without effect. The tumors recurred and the patient died a few months later.

Case XIX.—Round-Celled Sarcoma of the Testis Following Bicycle Injury.—E. K., male, twenty-two years old, good family history, previously in perfect health. On attempting to learn to ride a bicycle, July 1, 1896, he fell and injured the left testis. Within one week after he noticed an increase in size; the increase continued, but the growth was not painful. In August, 1896, it had reached the size of a fist. In May, 1897, the patient was operated on and the tumor removed. Recurrence followed in May. A second operation was performed in June, 1897. There quickly followed abdominal recurrence; the patient lost flesh and strength very rapidly, and died early in October, 1897. Autopsy showed nearly all the abdominal organs extensively involved. After generalization had occurred the erysipelas toxins were tried ten days with little effect; only very small doses could be borne.

Case XX.—Sarcoma of the Axilla.—P. W., female, aged twenty-seven years, with a good family history, cut her hand upon a flower-vase three years ago. The hand was kept bandaged for two weeks. During this time a lump appeared in the axillary gland of the same side. This lump never disappeared, but slowly increased in size and at times was quite painful. Later on two other similar tumors appeared, and finally the three coalesced, forming one, the size of an orange. In January, 1896, the patient was operated on by Dr. A. J. McCosh, of the Presbyterian Hospital. It was found impossible to remove the entire tumor. The growth subsequent to the operation was exceedingly rapid, and the tumor soon involved the clavicle and portion of the scapula. Microscopic examination showed the tumor to be round-celled sarcoma. (This case can hardly be classed as a result of direct trauma.)

Case XXI.—Sarcoma of the Parotid.—W. M., male, fifty-six years of age; farmer; had always been well; no history of heredity. In the latter part of July, 1895, he received a blow in the right parotid region from a horse's head, the horse turning suddenly, while he was standing near him. One month later a small tumor, about the size of a hazel-nut, appeared at the site of the injury. This was removed under cocaine on October 6th. The tumor recurred almost immediately. A second operation was performed the last of October. On November 13th the tumor had recurred again, and reached the size of half an egg, involving the soft parts in the region of the parotid, but was not attached to the bone. A very thorough removal was made under ether anesthesia, but in spite of this in less than three weeks the tumor had recurred, and reached the size of half an orange. Microscopic examination showed the growth to be made up of mixed (round and spindle) cells, the round predominating. He was treated with the mixed toxins of erysipelas without result. This case is important as the tumor appeared within a few weeks after receipt of the injury. Four operations were performed within the following four months, showing a very high degree of malignancy.

Case XXII.—Round-Celled Sarcoma of the Femur.—Periosteal.—H. G., male, twenty-six years of age, with good family history, first noticed a swelling in the lower end of the femur in September, 1895. He had sprained his knee two months before while attempting to separate two large dogs engaged in a fight. The lameness and stiffness appeared at once, and it remained until the tumor was noticed, a few weeks later. Exploratory incision showed the tumor to be round-celled sarcoma, and a few days later amputation of the leg at the hip-joint was performed by Dr. William T. Bull. The tumor recurred in the stump and pelvis in March, 1896, and the patient died about five months later.

Case XXIII.—Osteosarcoma of the Lower Jaw.—H. D., female, aged thirty-eight years, received a slight injury to the lower jaw in June, 1893. Two weeks after the injury a swelling appeared at the site of the injury in the region of the first molar tooth; there was little pain. The tumor gradually increased in size, and in November was removed by Dr. A. Vandeveer, of Albany, a portion of the jaw being resected. About three months later the tumor recurred, soon involving nearly all the structures on the left side of the face.

Case XXIV.—Spindle-Celled Sarcoma of the Foot (Metatarsal Bone).—F. K., female, aged sixteen years, in 1888 had a fall, injuring the right foot. Shortly afterward two lumps appeared on the foot in the region of the injury, and in 1889 the patient was operated upon in the New York Hospital, by Dr. William T. Bull. The third and fourth metatarsal bones were removed. Three years later she received another injury of the foot, and a short time afterward a recurrence was noticed. Syme's amputation was then performed by Dr. Bull. In 1893 she fell downstairs, injuring the stump, and shortly after this a lump appeared on its outer aspect and slowly increased in size.

Soon afterward a tumor appeared in the popliteal space, and grew with great rapidity, until, in December, 1893, it had reached the size of a child's head, and was then removed by Dr. Bull. The small tumor in the stump was treated by Dr. Bull and myself with the mixed toxins of erysipelas, with the result of entire disappearance. About one and a half years later there was a return in the same locality, and in 1896 I amputated the leg just above the middle of the thigh. There have been two recurrences in the gluteal region, which have been removed by operation. The patient has had the toxins administered at intervals during three years. She is at present, March, 1901, in good health.

Case XXV.—Round-Celled Sarcoma of the Tibia.—S. L., female, twenty-four years of age; family history good; previous personal history contained nothing worthy of note. In 1895 the patient fell downstairs and injured the upper part of the right tibia. A swelling in the region of the injury quickly followed and was accompanied by considerable pain. The trouble slowly grew worse. For a number of months it was treated as a periostitis and later was regarded as an osteitis. The swelling slowly increased as well as the pain. A portion of the growth was removed for microscopic examination. The latter proved it to be a round-celled sarcoma. On August 27, 1896, I amputated at the junction of the middle and lower thirds of the thigh. (In this case the tumor developed immediately after receipt of the injury.) She was alive three years after operation.

Case XXVI.—Sarcoma of the Kidney.—J. C. S., male, aged fifty years; German; perfectly well until March, 1893, when he fell down a flight of stone steps severely injuring the back just over the right kidney. About six months later hematuria developed. On the 1st of December of the same year a tumor could be made out in the region of the right kidney; operation was performed by Dr. F. Lange. The kidney was removed, the pleural cavity opened, and a portion of the twelfth rib resected. The patient was in the hospital for six weeks. He remained perfectly well for nearly four years after that, till March, 1897, when he had an attack of grip, which left him with some bronchial irritation. In May, 1897, while taking a cycling trip, he had slight dyspnea and considerable pain in the region of the old cicatrix. On July 5, 1897, a swelling was first noticed in the region of the old scar; this rapidly increased in size until November 24, 1897, when physical examination showed a tumor in the right lumbar region, extending from the crest of the ilium upward to the free border of the ribs, a distance of five inches. Transverse semicircumference of the tumor is six inches. The tumor occupies the site of the kidney, projecting somewhat beyond the level of the surrounding tissues, and is fairly well fixed. The skin over it is normal in appearance and not adherent. The patient has lost about ten pounds in weight and is in fairly good condition. There is no clear evidence of invasion of the pleural cavity. The erysipelas toxins were tried three weeks without result.

Case XXVII.—Melanotic Sarcoma of Foot.—J. H., female, aged thirty years; family history good. Had had a small movable swelling about the size of a dime on dorsum of left foot since childhood. It was not dark-colored and caused no inconvenience, until about three years ago, when the patient met with the following injury: While walking over a sidewalk undergoing repairs, her husband, preceding her, stepped upon a loose plank, causing the rear end to rise up two or three inches. Against this plank she struck her left foot, and shortly after, a week or two, she noticed the small lump was increasing in size. In a few months she had to get larger shoes, and the lump began to grow dark-colored. Ten months ago a tumor appeared in the groin, and this increased more rapidly than the tumor in the foot. She was admitted to the New York Hospital November 15, 1897, and the tumor of the foot was removed by Dr. Bull. The tumors of groin and pelvis were inoperable. The microscopic examination showed the growth to be a spindle-celled melanotic sarcoma with a great abundance of pigment. Dr. Bull transferred the case to my service at the New York Cancer Hospital for a trial of the mixed toxins. The patient was weak and had a daily temperature of 102° or 103° F., and only small doses of the toxins were given for two weeks. No effect was visible on the tumors. Two months later she developed spinal paraplegia.

Case XXVIII.—M. C., female, aged fifty years; family history good. Patient had had a small, dark-colored congenital mole on outer aspect of left leg since infancy. In June, 1897, she scratched this, causing it to bleed. Almost immediately afterwards it began to grow. A short time later the tumor was excised. Speedy recurrence followed, both locally and in the upper portion of the thigh. The tumors grew with great rapidity, and on February 1, 1898, were entirely beyond operation. They were deeply pigmented.

Case XXIX.—Multiple Sarcoma.—M. F., female, aged forty-six years, with good family history, had a congenital mole upon the neck. This remained stationary until eight years ago, when it was scratched. It immediately began to increase in size, and when about as large as a hickory-nut, an attempt was made to remove it by a silk thread. Five years later a hard lump formed underneath the scar and grew slowly. This was thoroughly removed by operation. One year later a tumor developed in the axillary region on the same side. Two other tumors soon after appeared in the left buttock, one growing rapidly, the other re-

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maining stationary. In August, 1895, there was a tumor, the size of a fist, just under the right breast attached to the skin, but apparently not connected with the breast gland; it was of a deep purple color. In the left buttock there was a similar tumor about the size of a cocoanut. This was probably a melanotic sarcoma.

I would like to mention, briefly, two histories of acute traumatic malignancy in carcinoma of the breast:

Case XXX.—Sister M., aged sixty years, in February, 1898, received a severe blow on the right breast from the elbow of a patient. She stated at the time, she knew this would result in cancer. Within four to five weeks she noticed a swelling at the site of the injury, together with sinking in of the nipple. The indurated area at this time was three inches in diameter. There was a feeling of heat in the region, but no pain. The tumor increased with great rapidity, and on October 9th, or about six months after the disease was first noticed, it had reached the size of a child's head, the skin over the entire area being indurated and infiltrated. The tumor was clearly inoperable. She was seen in consultation by Dr. Wm. T. Bull and the clinical appearances showed that the tumor was unquestionably carcinoma, although no microscopical examination was made. Curiously enough she stated that her first cousin had died of cancer of the breast, developing soon after a blow which she received from striking against the corner of an embroidery frame.

Case XXXI.—The following case, aside from the fact of its traumatic origin, is the only one I have observed of so-called disseminated schirrous or acute miliary carcinosis. Mrs. R., thirty-seven years old, married, born in Germany, without any history of heredity, received a hard blow upon the right breast from a bedpost in October, 1897. A few weeks later, she noticed a reddish discharge from the nipple of the injured breast. Shortly afterward she observed a hard lump at the site of the injury. This grew very rapidly, and in four months was as large as two fists. Not only was the entire breast involved in the disease, but the skin over the breast and a considerable area beyond was filled with typical, multiple carcinomatous nodules about the size of a split pea. The disease quickly extended to the other breast, and a few months later the skin over both breasts and the tissues over the entire front of the thorax were involved. The disease ran a rapid course, and the patient died eight months from the time the tumor was first noticed.

New Smallpox Pavilion.—A new smallpox pavilion will be built on North Brother Island. The building will be of frame construction, and will cost $10,000, according to the estimate of the architects.

EPISTAXIS.[1]

BY CHARLES N. COX, M.D.,
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Etiology and Pathology.—Epistaxis, or bleeding at the nose, is in most cases a comparatively trivial affair. But it may involve grave danger to health or even to life itself. It may arise from some systemic condition or, what is most frequent, be due to some local morbid condition within the nasal cavities.

Some of the general conditions which may cause bleeding from the nose are, plethora, anemia, the hemorrhagic diathesis and organic disease of the heart, liver, or kidneys. It occurs in certain acute diseases, especially typhoid fever. Classical descriptions of the latter disease usually include epistaxis as one of its initial features.

But it should ever be borne in mind that the majority of cases of nasal hemorrhage are due to some intranasal lesion; and that the ultimate cure of such cases is dependent upon a localization and removal of the lesions. These may be due to traumatism or to some diseased condition within the nasal cavities.

The most frequent injury which gives rise to epistaxis is a blow or fall upon the nose. In such a case, some of the minute vessels of the mucous membrane lining the nose are ruptured, as a result of the violence of the concussion. If the blow be heavy enough, fracture may ensue, in which event hemorrhage may be very severe. Traumatism due to operation within the nasal cavities is almost invariably followed by hemorrhage. But it is usually controlled without difficulty. The most frequent seat of hemorrhage due to local causes is the triangular cartilage of the septum, just within the vestibule. This is very easy of access; the bleeding-point can be seen without difficulty and the means of arresting hemorrhage are easily applied. When bleeding occurs in this locality, it is totally unnecessary to pack the whole nostril, which is so often done—even to the extent of applying plugs posteriorly.

A very common cause of bleeding from this area is a deviation or spur of the septum so situated that the column of air in breathing causes undue dryness and discomfort, the result being that the patient is impelled to blow the nose inordinately, or even to pick the nose to remove the little crusts that form on the mucous membrane. This violence gives rise to superficial abrasions, minute vessels are ruptured and bleeding follows. In the course of time, these abrasions deepen to ulceration, nutrition is impaired, and sometimes the septum is actually picked through and a perforation results.

Varicose enlargement of the veins of the septum is a cause of severe hemorrhage occasionally. I have seen a few cases of minute angiomata, also, that bled violently, upon rupture. In one case that I saw in consultation the patient was almost exsanguinated, in spite of anterior and

[1] Read before the Queens-Nassau Medical Society, Oct. 30, 1900.

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posterior plugging performed by the attending physician in a most perfect manner. Upon removing the plugs and mopping out the nasal cavity, I easily discovered the point of rupture, through which blood was spurting in a stream about the diameter of a small pin, with such force as to strike the turbinated body opposite.

Tumors may cause hemorrhage, but intranasal growths, fortunately, are comparatively rare, with the exception of mucous polypi and these seldom bleed. Of all the intranasal growths, sarcomata and fibromata are most apt to give rise to hemorrhage. Bleeding from the nose in children may sometimes be caused by lymphoid hypertrophy at the vault of the pharynx, or adenoids. But nasal hemorrhage from this source is seldom, if ever, severe. Vicarious epistaxis sometimes takes place in women at the time of the menstrual period, and is usually considered salutary when the flow of blood is not too great.

Treatment.—In the treatment of epistaxis, the first thing that demands our attention, no matter what the cause, is the immediate control of the hemorrhage, provided the flow is excessive and not accomplishing any good purpose. To do this intelligently, it is of importance to find, if possible, the spot from which the bleeding arises. This object cannot well be accomplished without good light and proper means of dilating the nostrils and illuminating the nasal cavities. To effect this, it is only necessary to employ the ordinary forehead mirror, a nasal speculum of some sort and a candle or lamp. Diffused daylight is usually not sufficiently powerful to illuminate the nasal cavities to the degree that is necessary for diagnostic purposes.

Unless bleeding has actually ceased when the patient is seen—in which event it is sometimes well to wait and see if Nature has not already controlled the flow by means of the clots which have formed—the bleeding nostril should be cleared by gentle blowing, followed by mopping with absorbent cotton on the end of an applicator. In a large proportion of cases, the source of bleeding can thus be seen, and it only remains to place some sort of a tampon over the leak in such a manner as to be retained in place and to make firm pressure. For the more severe forms of bleeding, local syptics are of little or no avail and should not be relied upon when we have at our command the more rational means of mechanical pressure.

Should the hemorrhage be so profuse as to well out so copiously as to defy any attempt to locate its origin, it may become necessary to resort to guess-work and plug the whole nostril. To accomplish this I prefer to use long strips of plain, sterile or iodoform gauze, about ½ inch or ¾ inch in width, passing one end of the strip through the nostril, by means of delicate forceps or probe, almost to the posterior pharyngeal wall, and then introducing successive instalments until the whole cavity is filled from behind forward. This, if properly done, will generally arrest hemorrhage from any portion of the nasal cavity and preclude the necessity of posterior plugging, which is, at best, almost intolerably painful to the patient and at times fraught with considerable danger to the Eustachian tube and middle ear.

I have seldom found it necessary to introduce posterior plugs. If necessity demand their application, it may be done in the following manner: First, prepare the tampon by taking a piece of gauze or absorbent cotton of sufficient size, so that when it is properly folded it shall be about 1¼ inches long and ¾ inch in diameter. Tie firmly around its middle a stout cord or silk ligature, leaving two free ends, each about fifteen inches long. Next, secure a thread or silk ligature ten or twelve inches long to the eye of a soft catheter. Pass the catheter along the floor of the nose and push it gently backward until it appears below the soft palate. Grasp the thread with a pair of forceps or hook, and draw it out of the mouth. Secure it to one of the tampon cords. Then withdraw the catheter and its thread from the nose. When the free end of the tampon cord appears at the anterior naris, make traction upon it, and draw the plug up behind the soft palate, assisting the operation by placing the index finger in the nasopharynx, and guiding the plug to its place over the posterior naris or choana. The cord hanging out of the mouth should be led to the ear and secured there, to facilitate removal of the tampon when the time comes. The cord in the nose should likewise be secured in some suitable manner, so as to prevent the plug from slipping out of place. The nasal cavity should then be filled with gauze in the manner heretofore described.

Rubber finger-cots have been recommended as an aid in packing the nose. One is to be passed well within the nasal cavity with a probe, and then filled full of cotton or strips of gauze. It might be possible to tie the open end with a ligature, and then distend the cot with air or water. These cots are usually about two inches long; therefore, pressure cannot be exerted beyond this distance.

Bernay's sponges of compressed cotton are also used for tamponing the nose. Their expansion incident to absorption of moisture is considerable; so that they exert strong pressure. A special form is made for application within the nasal cavities, but the ordinary ones also do very well for this purpose.

The patient should now be kept perfectly quiet, in a semirecumbent position. If the bowels are not moving freely and the subject be of full habit, a saline purgative may be administered with advantage. Under certain conditions, it may be proper to give ergot internally—say 10 to 20 minims of the fluid-extract, every two or three hours; or gallic acid, in 10- to 20-grain doses.

In the milder forms of epistaxis, some local astringent, styptic or caustic application may suffice to stop the bleeding. While alluding to styptics, I wish to utter a very strong protest against

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the use of that time-honored abomination, Monsell's solution of the subsulphate of iron. It is one of the most powerful of styptics, hence the temptation to use it, but it forms hard, plaster-like coagula, which are either removed with difficulty or remain for some time afterward within the nasal cavity, frequently causing suppuration and sepsis.

As an application to the bleeding-point, when it can be seen, the solid stick or a fifty-per-cent. solution of silver nitrate may be used, either as an adjuvant to mechanical pressure, or alone, if it control the hemorrhage. A few crystals of chromic acid may be used in the same manner. Particular care must be taken in the employment of the latter agent, especially that the blood does not spread it over a large area and cause too extensive cauterization.

The electro-cautery is a most effectual means of arresting hemorrhage. It is, however, not usually accessible when needed. Its use is allowable when applied carefully to the bleeding-point only.

One of the most powerful vasomotor stimulants of the dried extract of suprarenal capsule. This property of vascular contraction makes the remedy a very useful one for the control of nasal hemorrhage. It may be applied to the bleeding surface in the form of the powdered extract; or, better still, as a spray. The solution should be freshly prepared, as it readily decomposes. It can be made in the following manner:

℞ Extract suprarenal capsule.... gr. xx.
Glycerin ..... 3 j.
Aquæ ..... 3 iij.

Misce. Macerate for one half hour. Filter and then boil the solution for a few minutes to sterilize it.

The glycerin is added for the purpose of prolonging the period of preservation only, and may be omitted.

A twenty-per-cent. solution of ferropyrin in water is one of the cleanest and best astringent and styptic applications of which I am cognizant. It may be sprayed freely into the nostril without fear of harm. Antipyrin, on account of its contractile effect upon capillary vessels, acts with desiderable efficiency in producing and maintaining an ischemic condition of the nasal mucous membrane. A four-per-cent. aqueous solution may be used for this purpose. Alum is another clean and eligible astringent, which may be applied in solution, dr. 1 to 2 in oz. 4 of water. Finally, peroxide of hydrogen is an hemostatic of considerable value in capillary hemorrhage.

The list of local astringents and styptics which have been employed in epistaxis is a long one. But the ones above enumerated are those I have found, in my experience, to be the best and most reliable. I might also mention another agent of considerable value, namely, cold, which may be applied by means of ice over the nose, or small pieces introduced within the nostril; or by instillation of ice-water.

If attacks of bleeding from the nose are at all frequent, considerable blood may be lost in the aggregate, even though the hemorrhage be rather insignificant at each recurrence. It is, therefore, of importance, if the cause of bleeding be related to some morbid condition within the nose, that steps be taken in due time to remove the abnormality, if possible. The limits of this paper, however, will not admit of a consideration of the methods best adapted to the accomplishment of this object.

MEDICAL PROGRESS.

Fallacies of Therapeutics.—Traditions of the past often give false reputations to drugs and it is with difficulty that the medical profession is induced to give up a time-honored remedy even when proven to be inert. G. L. PEABODY (*Med. Rec.*, Mch. 30, 1901) reviews a number of the ordinary mistaken ideas in regard to therapeutics. The action of bitters in whetting the appetite is probably largely, if not entirely, due to the alcohol contained in the vehicle used. The idea that a person is temperate in the use of alcohol because he never has been drunk is a serious mistake some times made by the physician, for it is the steady moderate drinker who first shows the degenerative evidences in his heart, arteries, stomach, liver and kidneys. Boric acid has enjoyed a very variable career having been used for more than a hundred years as a common internal remedy. As an antiseptic it has very little power, being useless to disinfect wounds, hands or instruments. In deep wounds where sublimate and carbolic are changed by contact with the tissues, strong solutions of boric acid are often very efficacious. To control hemorrhage indirectly through the circulation, tannic acid is valueness, for it is always changed into an inert albuminata before being absorbed. Ergot causes a rise in pulmonary blood pressure, but is frequently given to control hemorrhage. Potassium iodide has been most recklessly given, probably because our knowledge of its action is so uncertain. Outside of its action in specific troubles and in lowering arterial tension its field of usefulness is probably not very wide. Creosote, so freely and frequently given in tubercular conditions of the lung, probably exerts no other influence than to improve intestinal digestion and thus benefit nutrition. In the matter of gaseous disinfection most substances have so little penetrating power that they are comparatively useless. Formaldehyd is the best. Scrubbing with antiseptics, or even rubbing the surfaces with bread crumbs, is doubtless more efficacious.

Local Aural, Nasal and Buccal Anesthesia. A. A. GRAY (*Lancet*, Mch. 9, 1901) states that as a means of avoiding cocaine intoxication, of deepening and prolonging the anesthesia and

of facilitating general operative rapidity and convenience, he has found the following procedure very useful. A twenty-per-cent. solution of cocaine hydrochlorate is made in rectified spirit and a twenty-per-cent. suspension of beta-eucaine in anilin oil. In the latter about one-half of the eucaine settles to the bottom, necessitating shaking well before using. After preparing the field for application ten drops of each solution are taken, mixed and well shaken. The resulting turbid, milky solution soon clears up, and contains ten per cent. each of cocaine and beta-eucaine and fifty per cent. each of rectified spirit and anilin. In the nose the mixture is applied on a pledget of cotton and rubbed in as well. In the ear a few drops may be instilled into the canal or, better, gauze soaked in it may be placed over the field through a speculum. In the mouth and pharynx the rubbing or painting on is all that is necessary. There are two difficulties—first, in the nose, the solution at first burns considerably; second, in children, the dose must be modified. A good rule is to use a total of twenty drops of the mixture for adults and in proportion to that amount for children. Its acme of activity is present within about seven minutes.

Indicanuria and Oxaluria, and Gastro-Intestinal Fermentation.—J. A. WESENER (*Jour. Am. Med. Assoc.*, April 6, 1901) discusses the relation of indicanuria and oxaluria to gastro-intestinal fermentation very thoroughly and cites the opinions of numerous investigators as to the meaning and importance of the presence of indican and oxalic acid in the urine. He gives in detail the method of determining indican in the urine, and also the method of determining the presence of oxalic acid. Wesener has arrived at the following conclusions: (1) Traces of oxalates are found normally in the urine, having been taken in with the food; (2) oxalate crystals usually denote gastro-intestinal fermentation. Food rich in oxalates must be excluded; (3) abundance of oxalate crystals does not signify high acid percentage, because in addition there may be oxalate of lime in solution; (4) indican is often, but not necessarily, associated with oxalate crystals; (5) hyperacidity on a meat diet contributes to putrefaction, whether due to excess of hydrochloric acids or acids of fermentation; (6) in certain disturbances of the gastro-intestinal tract due to excess of hydrochloric acid or to excess of fatty acids, in which there is fermentation, indican and oxalic acid are increased; (7) the symptoms of oxalic acid diathesis associated with indicanuria are not due to the oxalic acid nor to the indol, but to other products formed in the process of fermentation, and therefore the oxaluria and indicanuria are valuable as indicative of a putrefaction, to which the symptoms are to be referred. The study of oxaluria and indicanuria holds open a rich field for investigation. In the intestines there are various poisonous bodies produced directly associated with the formation of oxalic acid and the aromtics. These, when better understood, will lead to new ideas, thereby giving one a better understanding of chronic disease such as rheumatism, gout, etc.

New Method of Treating Fractures.—LEONARD F. HATCH (*Bost. Med. Surg. Jour.*, March 28, 1901) describes a new method for treating fractures of all kinds, based upon modern surgery. The principles upon which he has based his treatment are to convert all compound fractures into simple ones, and to operate on simple fractures, making them compound, and then apply the first principle, making them simple. Fractures treated by this operative method are practically free from all pain, as both the sharp spiculæ of bone sticking into the soft parts and the swelling are avoided by the operation. In a compound fracture the wound is simply enlarged, while in simple fracture there is a point of selection for the incision. There must be the most perfect antiseptic preparation. Elevate the limb and apply a rubber constrictor. Fit a sterile posterior and anterior splint of any suitable material. The points of selection for incision are for the tibia along the crest, for the femur along the outer side of the thigh, for the radius behind the supinator longus, for the ulna along the ulna side of the arm where the bone is most superficial, for the humerus along the outer side of the arm. A good free incision should be made, all clots and *débris*, such as shreds of tissue and loose pieces of bone, should be washed out, and all bleeding points tied. Be sure that the wound is dry, and see that coaptation is perfect. Apply one of the splints before closing the wound, close the wound with catgut sutures without drainage, lay a thin pad of gauze over wound and apply the other splint and bandage quite firmly. Remove dressing on seventh or eighth day and apply ambulatory splint or plaster cast. Hatch reports in detail fifteen cases illustrating the advantages of this method of treatment, and formulates the following deductions: (1) We should not be deterred from operating on fractures by fear of sepsis, and it certainly is unscientific to adopt a blind way when a better presents; (2) it would be warranted if it did nothing more than to relieve the pain and swelling, which it certainly does; (3) it shortens the repair process about one week; (4) it reduces the chances of deformity and non-union to a minimum. The writer considers the ambulatory splint the best dressing for fractures of the leg.

Radioscopic Plate Study.—K. LUDLOFF (*Centralbl. f. Chir.*, 1901, No. II.) says that for years at the Königsberg Surgical Clinic for the public demonstration and study of radioscopic pictures, the negative has been found advantageous. If the audience is a large one they have used the skiopticon and reduced diaposi-

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tives. Very recently the Hirschmann apparatus for the demonstration of the original plate had been most serviceable. Its details are, in brief, a box with a light portable stand, within which a star of electric lamps and several mirror plates cast the light upon a dark plate of glass. Before this rather evenly and diffusely illuminated plate the radioscopic plate is placed in frames. In a dark room, with the light toned down to suit the thickness of the plate, this method brings out many wonderful details. He has found that a sharp first-class opera-glass is a remarkable aid in studying the negatives illuminated in this way, with the observer three to ten meters away. Radiographs of large parts of the body, as pelvis, abdomen, vertebral column, etc., are reviewed as wholes much more easily without being confused by details. In the absence of this special Hirschmann appliance, the negative can be placed in a frame before a window (northern exposure always) and with the aid of curtains a good view can be had. Reduced diapositives can be advantageously studied in the same way with a common reading glass in the ordinary dark finishing room.

Inoperable Cancer.—G. R. LEIGHTON (*Brit. Med. Jour.*, March 16, 1901) states that the treatment of cancer which is beyond the limits of surgical aid is a great problem to the general practitioner and the surgeon alike. He has found in his cases, for example, that the three troublesome symptoms hemorrhage, foul discharge and pain will yield well to the following management. Bleeding is easily commanded by fluid extract of ergot internal and by ergotin hypodermatically. The disgusting foul-smelling discharge is obviated by washings and wet dressings of some antiseptic and deodorant. None is better than carbolic-acid solution, about 1-40 strength. Pain in the early days will decrease or vanish with chloral hydrate and morphine, but these soon loose their influence. Opium in the form of the tincture is by far the most efficacious, permits of unconscious administration and in steadily increasing dose will give the patient hours of continuous respite from pain and refreshing sleep. When the dose begins to be *ounces* by the day, tincture of belladonna is a valuable adjuvant. In one patient of his in two years' treatment by the above plan he controlled all three symptoms, finally giving nearly *400* grains of opium in twenty-four hours.

Benzin in Surgery.—F. FRANKE (*Centralbl. f. Chir.*, 1901, No. II.) says that for years in private and hospital practise he has without known disadvantage used benzin as a substitute for ether wherever the latter is used externally. The manifest gains are that benzin is very cheap, is equally active in dissolving off dirt and fat from the skin, does not cause disagreeable chill of the skin by excessively rapid evaporation, will not nauseate the recently-anesthetized patient by its odor, is a very good solvent for rubber plaster, the removal of which is so painful to some patients, does not cause excruciating pain or abrasions and cuts and is no more inflammable than ether. General use of it for such purposes is worthy of the attention of all.

Creosote in Pneumonia.—For several years I. L. VAN ZANDT (*Med. Rec.*, Mch. 30, 1901) has been using creosote as early as possible in cases of pneumonia and believes that it has almost a specific action in many cases especially those due to the pneumococcus. At first he gave a combination of ammonium salicylate, gr. vijss, creosote gtt j, syrup. 3j, every three hours. Latterly he has used creosote carbonate, grs. vijss, emulsified with acacia or even larger doses every three hours. Within two days the temperature is frequently down to normal with amelioration of symptoms, but if the drug is then discontinued the temperature usually rises again and the symptoms return. Several noted clinicians have reported similar results from the use of this drug, especially when used in the early stage.

Carcinoma Colli Uteri.—O. VON FRANQUÉ (*Zeitsh. f. Geburtsh. u. Gynaek.*, B. 44, H. 2) states that the explanation of the fact that metastases of these growths usually appear in the parametrium beside the cervix earlier than in the body of the uterus lies in the arrangement of the lymph vessels and the direction of the lymph current. The small channels of the portio vaginalis run upward and outward, those of the middle horizontally outward and those of the upper part of the cervix downward and outward to the lateral borders of the cervix. The existence of valves in addition to this arrangement of the trunks as a rule spreads the disease laterally, while it passes upward only by simple contiguity. The bearing of this upon treatment is manifest.

Ether Narcosis.—W. REINHARD (*Centralbl. f. Chir.*, 1901, No. II.) says that certain of the unfortunate pulmonary sequelæ of ether narcosis, as bronchitis and pneumonia, are attributable to the excessive mucous secretion throughout the respiratory tract. In the Diakonissen-Krankenhause at Kaiserwerth they have found such hypersecretion to be almost habitually prevented by giving atropine sulphate hypodermatically about an hour before the beginning of the anesthetization. In addition to quieting the mucous membranes the drug is a lasting cardio-respiratory stimulant, which only adds to its indication as a prophylactic of postoperative sequelæ. Morphine may or may not be added.

Acute Gastro-Intestinal Paresis.—O. VON HERFF (*Zeitschr. f. Geburtsh. u. Gynäk.*, B. 44, H. 2, 1901) formulates the management of these severe acute postoperative dilemmas in the following terms. Prophylaxis consists in great care in the preparation and operation of chronic gastric conditions. The vomiting due to the anesthetic must be checked promptly

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by any means approved, and best of all by lavage. This same means is of value in the beginning of the actual paralysis. The appropriate use of nutritive and stimulating enemata is very valuable. Faradization of the stomach is excellent. To combat the great thirst, stimulate diuresis and support the circulation, give normal salt solution enemata or better still infusions up to one to one and a half liters in twenty-four hours. Some authorities try the knee-elbow position. The best is the abdominal position with the hips well elevated.

Enteric Fever in Childhood.—Children commonly have an atypical temperature range, usually with step-like ascent in the first week, level but with morning remissions in the second week, and a gradual or sudden fall in the third week. W. L. Stowell (*Archives of Pediatrics*, April, 1901) found apathy, mental dulness, or headache common and epistaxis especially so, though Vogel speaks of it as rare. The compressible and non-resistant pulse are diagnostic before dicrotism or intermittence supervenes. Leucocytes and erythrocytes are both diminished. Tympanites is less frequent than in adults; gurgling at the ileocecal valve is common. One-third of the cases had diarrhea, many had tender large spleen, albuminuria was rare. The complications noted are varicella, parotitis, bronchitis, pneumonia, intestinal hemorrhage (very rare), and perforation. There were three relapses in seventy-seven cases. Give milk diluted with vichy, seltzer, or lime-water, as a diet, and if the fever is high partly peptonize it. If no diarrhea, add bouillon, broths, and meat-juices. Custards, gelatin, and egg beaten in milk may be allowed, also lemonade, iced coffee or cocoa and ice-cream. Supply liberally with water. During the first few days calomel gm. 0.006 (gr. $^1/_{10}$), every hour as a laxative, and salol, as an antiseptic, are indicated, also citrate of magnesia. During the third week strychnine, digitalis, camphor, ammonia or coffee will stimulate the heart. Liquid peptonoids furnish alcohol combined with food elements. A Dover's powder quiets delirium, and older children may have morphine, gm. 0.02 (gr. ⅓), with camphor, gm. 0.03 (gr. ½). Baths are not usually well borne, but sponging is good. Chloride of lime, gm. 2.50 (℥viij) in 4 liters (one gallon) of water makes a stock disinfectant of which 30 gms. (℥i) in 4 liters (one gallon) of water may be used for excreta and soiled linen.

Diabetes Mellitus.—In reviewing the early symptoms of diabetes, H. S. Stark (*Med. Rec.*, April 6, 1901) mentions the periodic headaches in obese subjects over thirty-five years of age, extreme and lasting fatigue after a short but violent exercise, and prolonged fatigue after slight exertion. Also slowly failing vision in the aged or quickly failing sight in the young, certain signs referable to the mouth such as acid saliva, receding gums, fissured and extremely reddened tongue should be looked upon as suspicious symptoms. Premature grayness or sexual weakness, diminished patellar reflex, slow healing of wounds and cramps in calves of legs, with muscular weakness, are frequently met with early in this disease. The prognosis depends upon several features. This is the only disease in our nosology in which old age is an advantage. The power of assimilation is extremely important, and permanent intolerance to carbohydrates is very unfavorable, especially when a glycosuria persists despite a rigid antidiabetic diet. An early recognition of the disease is to be desired, and hence routine examinations of urine are suggested. The ability to lead a sedentary life, free from care and worry, is important; the discovery of acetone or diacetic acid in the urine makes the prognosis very grave. Finally, much depends upon the capacity to absorb and assimilate fatty and nitrogenous foods, to the exclusion of carbohydrates. They may all be divided into the mild type, the medium type, and the severe type.

Comparative Pathology of the Jews.—After a thorough investigation of the relation of disease to the Jews and other races, M. Fishberg (*N. Y. Med. Jour.*, March 30 and April 6, 1901) reaches the conclusions that the death-rates of the Jews, at all ages, are comparatively and absolutely lower than those of the people among whom they live. Syphilis and alcoholism, and also diseases due in a great measure to their poisons, are comparatively rare among the Jews. Diabetes is very common, some believing that twenty-five per cent. of all cases occur in Jews. Functional neuroses and psychoses occur frequently among the Jews, but the organic nervous lesions are less common than among non-Jews. Blindness, trachoma and glaucoma are very often seen in members of this race. These peculiarities are not due to any ethnic, "biostatic" or racial characteristics of an anatomical or physiological nature, but have their origin in the past history of the Jews, in their habits of life, and in the fact that syphilis and alcoholism have but rarely been seen among them.

Rectal Feeding.—In numerous throat affections mouth-feeding is not only most distressing to the patient, but also interferes materially with the healing of the diseased parts. In operations upon the mouth or pharynx, in cases of diphtheria or severe laryngitis of children, or in tubercular laryngitis when the passage of food is extremely painful even after cocaine has been freely used, rectal feeding becomes not only comforting to the patient but by far more efficacious in maintaining the nourishment. Of course, it cannot be continued as the sole method of imbibing food for more than two or three weeks. A. C. Bardes (*Med. Rec.*, April 6, 1901) recommends the use of one to six ounces with the addition of ten drops of laudanum in case the rectum is irri-

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table. Milk is the chief article employed. There are two processes of preparing, the cold method in which ten grains of pepsin are dissolved in four ounces of water, a pint of milk added and the mixture placed upon ice. When needed heat to 105° F. and inject. In warm process, the food is prepared as above and heated to 115° F. for half an hour, then placed upon ice and heated to 105° F. when needed. An egg, well beaten, may be added.

Ambulatory Typhoid with Perforation.—A peculiar case of a boy, seven years old, sick with typhoid fever of a mild type for one week in whom perforation suddenly occurred is reported by A. A. BERG (*Med. Rec.*, Mch. 23, 1901). He had headaches and general lassitude, but no abdominal pain, the stools were normal and he was not confined to bed during the week's illness. On day of the perforation he had violent cramps in lower abdomen, especially right iliac fossa. He had several chills followed by fever during the day and vomited once. There was no collapse. The temperature was 103° F.; pulse 136. Spleen and liver appeared normal, but there was much distention. Operation disclosed a seropurulent fluid and injected peritoneum, normal appendix and a small perforation of an enlarged Peyer's patch. The child made a good recovery, the temperature ranging from 100° to 104° F. during the next nine days. The stools were not typhoidal, the diazo remained negative, but a positive Widal was obtained on the nineteenth day. In speaking of the diagnosis and treatment of this condition the author insists on the necessity of making an early diagnosis. The symptoms of the preperforative stage due to the localized peritonitis are: (1) Local rigidity of the abdominal wall; (2) usually an increased leucocytosis; (3) local pain and tenderness; (4) possibly nausea and vomiting; (5) possibly increased pulse-rate and temperature. The first two are by far the most important and frequent examinations should be made to detect them. The evidences that a perforation has occurred are due entirely to the intestinal extravasation and may therefore be insignificant or of an alarming character. When severe they are the symptoms of shock—collapse, fall of temperature, cold clammy skin and rapid feeble pulse. As the peritonitis progresses Cushing has shown that the leucocytosis diminishes while the local signs of peritonitis increase. It is therefore very essential to detect the symptoms of the preperforative stage and although these do not indicate an operation, the subsequent appearance of shock or a decreasing leucocytosis with increasing abdominal rigidity urgently demand surgical interference.

Chronic Gonorrhea and Marriage.—Some authorities go so far as to say that since it can never be positively proven that the gonococci have entirely disappeared, consent to marriage should never be given, but since this would condemn nearly ninety per cent. of all male persons to celibacy the rule becomes most impracticable. L. WEISS (*Med. Rec.*, Mch. 23, 1901) believes that the decision should rest entirely on careful repeated examinations of the threads and the exudate expressed from the seminal vesicles and prostate. When the gonococci have entirely disappeared from these an irritative injection of a two-per-cent. silver nitrate solution or a 1-10,000 bichloride solution is made to induce a mild urethritis and cause the exudation of pus, epithelial cells and the gonococci which lurk in the epithelial cells or deeper structures. Not only microscopical examinations should be made, but cultures should be taken and both methylene blue and Gram's staining methods applied to the colonies grown. When after repeated examinations the presence of gonococci cannot be demonstrated, permission to marry should be given.

Vaccination.—H. PALM (*Arch. f. Gynaek.*, B. 62, H. 2) has observed the phenomena of vaccination among pregnant and nursing women and newly-born children, and concludes as follows: (1) Inoculation of the women at least during the last four months of pregnancy is harmful for neither mother nor child. The very fatal ravages of smallpox among the pregnant make vaccination of them peremptory; (2) such successful inoculation of the mother, even late in her pregnancy, does not protect the child; (3) it does occasionally happen that a child of such a mother will be resistant partly or totally to vaccination; (4) vaccination is well-borne by the youngest children, even those a day old, and even premature whether artificially or naturally fed; (5) vaccination of the newly-born is always peremptory in the presence of a smallpox epidemic: (6) habitual inoculation of such infants is not justifiable, because they are more susceptible to the accidents and bad-effects which occur among adults.

Tropical Dysenteries.—After considerable experience with our armies in the South and the Far East, S. M. LONG (*N. Y. Med. Jour.*, Mch. 30, 1901) concludes that only a few drugs have proven to be of any decided benefit. Although there are several types of the disease, the usual case of acute dysentery should first be given calomel in small doses to thoroughly clear the bowel. Ipecac is an excellent drug if given properly. The patient should be put to bed, and from fifteen to twenty drops of tincture of opium administered. Soon afterward put ice-bag on head, mustard paste on stomach, give a hypodermic of one-quarter grain of opium, and administer forty grains of ipecac by mouth. Nothing should be swallowed, not even saliva, and the patient should be kept quiet for four hours. A second dose may be necessary and in this way nearly eighty per cent. of cases can be cured. The subnitrate is the best preparation of bismuth

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and this should be given in large doses, thirty or forty grains, and its action is enhanced by the addition of five grains or Dover's powder. Enemata are of great value in some cases. A soap-suds enema should be given first and then a hot-water irrigation medicated with silver nitrate or chloride of iron is given by means of a soft rubber tube. Normal salt-solution enemata, laudanum, and starch-water are also good.

Etiology of Cirrhosis of Liver.—With the intention of proving the action of poisons of liver cells, A. Marckwald (*Münch. med. Woch.*, Mch. 26, 1900) fed a number of frogs, with small, but gradually increasing doses of antipyrin. The organs reacted alike in all animals and three pathological stages could be observed: total destruction, beginning degeneration and transitions between both. Strangely, however, no true cirrhotic processes were found since in no place were the destroyed cells replaced by connective tissue. This the author ascribes to the fact that frogs in confinement do not spontaneously take nourishment and that thus reactive power on part of the tissues is impossible. On feeding the animals with meat quite different results were obtained. In places where there was much breaking down of liver-cells a granulation-tissue, consisting of intensely staining round cells had made its appearance. There is little doubt that in man a similar process goes on in cirrhosis of the liver and that destruction of liver-cells is the first and primary change.

Mixed Cirrhosis of Liver.—H. Ullmann (*Münch. med. Woch.*, Mch. 26, 1901) points out that it often is impossible to classify all cases into either atrophic or hypertrophic and that one often meets with large livers giving symptoms of the atrophic variety. So also in the case which the author cites where the liver reached to near the umbilicus and where enlarged spleen, ascites, distended abdominal veins and jaundice were present. The course of the disease here was very rapid, the patient dying several weeks after the onset of the symptoms. Only alcoholism could be found as cause. Microscopically a well-marked increase of connective tissue which stood in no definite relation to the liver-lobules could be demonstrated. The liver-cells themselves were fairly well preserved.

Treatment of Tuberculous Osteo-arthritis.—C. Trunecek (*Klin. therap. Woch.*, Mch. 31, 1901) recommends the following procedure where fistulæ are present. The granulations about the fistulous tracts are removed and the adjoining skin protected with vaseline. The cavities in the bone or joint are then washed out with a solution containing all the salts of the blood-serum in their normal proportion, but in a concentration of 20 per cent. A caustic action results without introducing any foreign material into the organism. A Priessnitz is applied after the lavage to reduce the inflammation which follows. The results are excellent, especially if the lavage is repeated several times at intervals of two weeks.

Charcoal and the Tubercle Bacillus.—It is a well-known fact that those subjected to the dust of carbon in any form are much less liable to suffer from tuberculosis than where other forms of dust are inhaled. To ascertain whether the various forms of carbon have any inhibitory action upon the development of the tubercle bacillus, J. Papasotiriu (*Münch. med. Woch.*, Mch. 26, 1901) grew them upon glycerin-carbon-agar with the result that they flourished just as well as before the addition of the carbon. The above fact must therefore find its explanation in a different way.

On Subcutaneous Injections of Paraffine.—The hypodermic use of paraffine has recently been recommended for cosmetic purposes to replace extirpated breasts, removed testicles, etc. H. Meyer (*Münch. med. Woch.*, Mar. 12, 1901) warns against the dangers connected with this procedure since the paraffine will slowly leave the original site of injection and will tend to eventually occlude the lymph and tissue-spaces with resulting disturbances of nutrition. The same may possibly hold true for the oil-injections employed for nutritive purposes.

Treatment of Acne Pustulosa.—Nitric acid, turpentine, a bundle of wooden toothpicks, blotting-paper and vaseline, together with some iron-strychnine-quinine pills and cod-liver oil, is the outfit with which H. L. Jones (*British Med. Jour.*, Mch. 2, 1901) successfully treats the worst cases of acne pustulosa. The pimples' base is smeared with vaseline, a toothpick, dipped in the acid and hurriedly dried on the blotter, is thrust into its depths, twisted three or four times and removed. If one the face, not more than six or eight should be treated at a sitting; if on the neck and shoulders, upward of twenty. The patient must be told that it will take from ten to twelve sittings in a bad case, and, particularly, that if a single pustule be left remaining the disease will surely return.

The Anopheles Campaign.—H. E. Durham, writing from Parà (*British Med. Jour.*, Mch. 2, 1901) has several interesting suggestions as to the ultimate extinction of malaria. He notes that throughout the southern countries there is but one time in which to make profitable use of chemical culicicidal agents in the marshy districts, *i.e.*, immediately before the rainy season. This conclusion, together with the belief that this mode of attacking the *Anopheles* is decidedly Utopian, he has gathered from experiments with a series of stagnant pools in the vicinity of Parà. He also concludes that Koch's vision of a universal cinchonization of communities would avail little, since quinine is lethal to some forms only, *i.e.*, the crescents. He

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feels that if the parasite is to be successfully attacked *via* the human system, arsenic, which destroys the reproductive form, should be given for the protection of the community, while quinine must be restricted to the relief of the individual. It thus appears that, so far, man's best weapon against the *Anopheles* is drainage.

THERAPEUTIC HINTS.

Diphtheria.—With the exception of cleansing sprays of 6 per cent. boric acid solution, listerine and water, or salt and water, local applications are mostly unnecessary and therefore bad, writes CHAS. C. GIDNEY (*Pediatrics*, Mch. 15, 1901). In mild cases seen early, 600 to 1,000 units of antitoxin injected between the scapulæ or into the cellular tissue of abdomen or thigh, will suffice. In cases however of extensive membrane, 4,000 to 6,000 units should be injected at once, and perhaps an additional 2,000 to 3,000 units in the next day or two. Overdoses are harmless, as much as 12,000 units having been repeatedly used in the Brisbane Children's Hospital. When the pulse indicates it strychnine, digitalis, or alcohol may be of service.

Gargles.—Much has been written about the futility of gargles, but H. LAVRAND believes that the muscular tension of gargling is of some value in itself, and that gargles can easily be made to reach the posterior pharyngeal wall. He makes his patients take a mouthful of liquid, throw the head backward, open the mouth as widely as possible, and in this position attempt to exhale the breath. Then on quickly lowering the head some of the water is extruded by the nose, thus showing that it must have been in the pharynx. The method may be used to medicate nose, mouth or pharynx. In the above position a little liquid dropped on the tongue will run down into the larynx, but does not pass the vocal cords. The epiglottis, arytenoid bodies and vocal cords may thus be medicated. The author cites numerous experiments of painting the pharynx with methylene blue and gargling with water, with glycerite of starch and gargling with iodine solution, with tincture of iron and gargling with sodium salicylate solution, with glycerin solution of tannic acid and gargling with ferric perchloride, etc., all of which show that the posterior pharyngeal wall is reached by the gargling solution when the patient throws the head back and opens the mouth wide.—*Jour. des Sciences Méd. de Lille*, Mch. 30, 1901.

Typhoid Fever.—R. ROMME (*La Presse Méd.*, Mch. 20, 1901) finds that quinine and the bath are the favorite remedies for typhoid. Glénard uses the full Brand system of bathing. Comby, Guinon, Marfan, and Aussi give the first bath at 95° to 85° F., and in successive baths lower the temperature till it reaches 75° or 70° F. Variot gives tepid baths, and Netter warm baths like those Rénaud advises in bronchopneumonia. Among Germans, Binz and W. Erb have recently independently made pleas in favor of the use of quinine. Erb's treatment consists of attention to diet and hygiene, tepid baths progressively cooled, and quinine, gm. 1.0 to 2.0 (gr. xv-xxx), at night when the fever is at its height. Erb has abandoned the use of antipyrin, phenacetin, lactophenin, salophen, etc. He believes that quinine is not only antipyretic, but that it acts favorably on the course of the disease, shortening its duration. Binz prefers the hydrochlorate of quinine, as it is much more soluble.

Chloretone as Analgesic.—E. H. SITER (*Therapeutic Gazette*, March 15, 1901) has used chloretone in solution as a local anesthetic with extremely poor results, but in the form of a dusting-powder he has found it to mitigate or entirely allay the pain of granulating wounds. It neither hastens nor delays granulation and may be used with any dusting-powder, such as boric acid.

Guaiacol in Skin Tuberculosis.—A mixture of equal parts of guaiacol and olive oil is painted on the ulcerated area three times a day, after the crusts have been removed, and all exuberant granulations destroyed by a ten-per-cent. solution of lactic acid.—*Jour. de Méd. de Bordeaux*, Mch. 31, 1901.

Erysipelas.—The disease is self-limited and most cases get well without any internal medication. According to Osler the diet should be nutritious and light; chloral or bromides may be given for restlessness, delirium, or insomnia, and if these fail, opium. If the fever is high the patient may be sponged or bathed, or given antipyrin or acetanilid. The tincture of ferric chloride has been much given in dose of gm. 2.0-4.0 (ʒss-i), every 3 or 4 hours, with questionable benefit. Locally, a two-per-cent. solution of carbolic, or solutions of the bichloride or biniodide of mercury may be injected beyond the border of the spreading area. Ichthyol is at present much used. Perhaps as good an application as any is cold water.—*Practice of Medicine.*

Sweets.—Their action on the stomach and intestines, write VAN VALZAH and NISBET, is one of excitation of secretion and peristalsis. Large quantities are hydragogue, the secretion being poor in hydrochloric acid and ferments. In disease their digestibility is greatly modified and their easy fermentation constitutes a serious objection to their employment. Concentrated solutions of sugar congeal or may even inflame the mucosa. In the diseases of the stomach with excessive secretion all sweets must be prohibited; but if the digestive tube is sweet, the motor functions efficient, and the stomach not morbidly sensitive or inflamed, sweets may be permitted. In adenasthenia gastrica they may be beneficial. Milk-sugar is very nutritious, excites secretion but little when given well diluted and in small quantity, and is a valuable laxative food.—*Diseases of the Stomach.*

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A WEEKLY JOURNAL

OF MEDICAL SCIENCE.

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SATURDAY, APRIL 20, 1901.

ROUTINE DOUCHING IN OBSTETRICS.

Since Semmelweis showed how greatly the mortality from puerperal infection might be reduced by simply washing the operator's hands before delivery, much attention has been devoted to methods for still further diminishing the number of infected cases. With this object in view routine vaginal douching before labor has been advocated by many obstetricians. In the year 1887 Gönner announced that the vaginal secretion of pregnant women examined by him did not contain the pathogenic bacteria which were usually found in puerperal infections, and that for this reason the use of vaginal douches before labor for the prevention of auto-infection was unnecessary. Since that time the advisability of routine douching before and after delivery has been frequently discussed.

The statistics advanced by those in favor of routine douching, as well as those presented by the opponents of this procedure, are of uncertain value. This is due largely to the diminution of the number of cases of infection in the maternity hospitals, by reason of the many improvements in aseptic technic, such as the restriction of frequent internal examinations, and careful disinfection of the hands. This small proportion of infected cases affords poor grounds for estimation of the results of antepartum douching, as some of the cases infected are doubtless due to individual errors in technic and so prove nothing in regard to the value of douches.

Certain observers have discovered pathogenic micro-organisms in the normal vagina and for this reason advocate prophylactic douching. Others hold that the vaginal secretion possesses bactericidal qualities. These are attributed by Döderlein to its acid reaction produced by the vaginal bacillus which bears his name. The experiments of Krönig show that the vagina takes longer to eliminate pathogenic bacteria artificially introduced, when douches are employed; and other investigators have found that douching, with or without antiseptic solutions, usually fails to remove such organisms.

The recent bacteriological researches of A. Wadsworth (*American Journal of Obstetrics*, April) have led him to condemn routine antepartum or postpartum douching. His technic was such as to exclude all possibility of contamination of the uterine and vaginal secretions, and both cultures and staining methods were employed. He found that it was exceptional that pathological bacteria persisted in the vaginal secretion through pregnancy and labor, but that if they were present the lochia favored their growth, and energetic antisepsis after labor was necessary. Cultures from several cases in one of the best of New York's maternity hospitals demonstrated the persistence of streptococci in the vagina after repeated douching with a 1-5,000 solution of bichloride. He considers as requisite points that the disinfecting solution be brought into contact with all bacteria by distending the folds of the vagina, and that it be of sufficient strength to kill the micro-organisms without, however, injuring the vaginal wall. The douche, as ordinarily given, merely removes the protective resources of the vagina. Wadsworth's cultures confirmed the statement that the uterine cavity is usually germ-free. He emphasizes the necessity of differential diagnosis between sapremia and septic conditions, since intrauterine douching after labor is strongly indicated for the removal of the abnormal contents

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of the uterus in the former class, while in septic conditions it is likely to aid in disseminating the process unless the uterine sinuses have been closed by granulation tissue. The rule which he lays down is that bacteriological examination of the cavity of the uterus should always precede an intra-uterine douche and such an examination should be made early, since, if a radical operation is required, an early determination of this point is of great importance in regard to its prognosis.

Reviewing the results of Wadsworth's observations as well as those of others, one cannot fail to note that antepartum douches frequently fail to remove pathogenic bacteria when they are present; that they destroy the natural protection of the vagina, whether this be its secretion as a whole or the vaginal bacillus; that they are liable to cause slight injuries to the vaginal wall and so furnish points for the entrance of infection, or at least, by removing the lubricant of the vagina to make labor more difficult and thus favor such vaginal traumatism; and, finally, that pathogenic bacteria may be introduced by these manipulations. For these reasons, and on account of the danger of dissemination of sepsis by intrauterine douching while the uterine sinuses are closed only by infected blood-clots, one must in general agree with Wadsworth's conclusion; that "the routine management of cases should be freed as far as possible from all procedures which interfere with the natural resources of the body; for these, in the vast majority of cases, are sufficient protection against the invasion of pathogenic bacteria. In the few exceptional cases requiring interference this should be determined and directed by the bacterial examination."

This statement seems open, however, to slight modification. No one will deny that after manipulations which require the intimate contact of the hand with the interior surface of the uterus, as in manual extraction of retained secundines, it is wise to give immediately a bichloride douche for the purpose of flushing out any pathogenic bacteria which may have been introduced, before they have an opportunity to become attached to the uterine wall. Such a bacteriological examination as Wadsworth advises is obviously beyond the reach of the attending physician in a large proportion of cases in private practice, and in these the indication for douching must necessarily be derived from careful exclusion of all other causes of fever, with the presence of local symptoms. Whether the uterine condition is one of sapremia or of sepsis must, in such a case, be determined by the judgment of the physician, aided by the history of the labor and the probability of infection before or during labor as opposed to retention of secundines. As a general rule avoid douching in obstetrics unless it is particularly indicated.

DIABETES AND THE PANCREAS.

EMBEDDED in the substance of the pancreas are the peculiar bodies described by P. Langerhans and usually designated islands of Langerhans. They are composed of polygonal cells arranged in irregular columns, between which are wide tortuous anastomosing capillaries. The lumen of the ducts of the secreting acini of the pancreas does not penetrate the cells in these islands and it is therefore inferred that they are not concerned in the formation of the pancreatic juice. It is interesting, moreover, to note that these bodies resemble other ductless structures, notably the parathyroid and carotid glands and in some respects the suprarenal, pituitary and thyroid bodies.

Such is the general introductory description of these bodies as given by Dr. Eugene L. Opie in a recent study on the "Relation of Diabetes Mellitus to Lesions of the Pancreas" (*Journal of Experimental Medicine,* March 25, 1901).

The histology of these bodies has suggested to physiologists that perhaps the pancreas also had an internal secretion which might be found to have some relation to carbohydrate metabolism, and certain experiments by Ssobolew have seemed to bear out this hypothesis. Dr. Opie's researches, from the pathological side, tend further to strengthen the theory. He characterizes two types of pancreatitis, one an interlobular form, in which with other changes the islands of Langerhans are only secondarily implicated and a second, or interacinar pancreatitis, in which these structures suffer with the other elements of the gland. With the former type, diabetes is not a common accompaniment; with the second, however, he believes that it is, and an interesting case is described in which these islands have undergone complete hyaline degeneration. The clinical history was accompanied with marked symptoms of diabetes mellitus. This case, with some others previously reported, calls

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attention to this peculiar type of lesion, and while it is unquestionably true that impaired pancreatic function is not the only cause of diabetes, in fact, pancreatic disease is absent in many frank cases of this affection, yet the author concludes that destruction of this portion of the organ will cause the disease.

As he concludes, "Destruction of the pancreas in animals, and in man, is accompanied by diabetes: in the present case destruction of the islands of Langerhans has been accompanied by this disease. Since diabetes is absent when, as the result of duct obstruction, the secreting portion of the gland undergoes great alteration, although the islands are spared, the conclusion is justified that it is those structures which influence carbohydrate metabolism. What has been learned concerning the relation of the pancreas to diabetes is the relation of the islands of Langerhans to this disease."

APROPOS OF THE CITY CHARTER AND BELLEVUE.

THE members of the committee appointed by the Medical Board of the City Hospital to take action in regard to the amended city charter so far as it affects Bellevue and the allied hospitals object to the proposed change of vesting the authority of management in a board of seven trustees, instead of in the one commissioner.

Reforms, in New York are about as permanent as street improvements; no sooner does the commotion, up-tearing and relaying pave a sightly thoroughfare, than the whole thing must be ripped up and done over again. Bellevue reforms have been stirred up before and at the change of administration have relapsed into their former condition. If anything permanent is to be accomplished it must be by organizing the hospital administration on lines that are wholly outside of politics; and to accomplish this we state once more what we have already emphatically repeated that if Bellevue is to be placed in the same irreproachable category as other hospitals it should be managed as they are, by an unsalaried board of trustees; trustees who shall be chosen from among the powerful and influential men of the city who will give as disinterested service to the city's sick, as do the other able men who serve upon the board of trustees of the great private hospitals.

Drs. Edward S. Peck, C. L. Gibson, Charles C. Ransom, Robert H. M. Dawbarn, Alfred N. Strouse, and Nathaniel Bowditch Potter who compose this committee are rather vague in their objections, if we are to judge by press notices. They think that the complex methods of making nominations for the positions of trustees are no guarantee of the occurrence of a state of harmony or common interest in caring for the sick and that there would be opportunity for the furtherance of special and individual purpose. We wish to remind the committee that Bellevue has been through a good many reforms, and is not much better off for them; that as soon as the present commissioner retires, the hospital will be at the mercy of whatever politics may throw its way; that the public will feel that enough attention has been bestowed upon its betterment, and will turn wearily away when the same process of ripping up again becomes necessary, and that now is the great opportunity, once and for all, to put Bellevue and the allied hospitals under a different management.

It may cost a little more to readjust the relations but it will be money for which value will be received; and so long as the money goes directly to the city's poor and not to its politicians, we do not see why the committee should be so chary about the outlay. None of their excuses about the possible friction, the possible personal aggrandizement, and the possible extra expense should have weight in comparison with the actual state of affairs that has been tolerated in spite of all efforts to modify it during the last twenty years.

ECHOES AND NEWS.

NEW YORK.

Brooklyn Pathological Society.—At the last regular meeting of this Society, held April 11, Dr. Clarence Hyde read a paper on "Urethral Caruncle" and Dr. J. S. White contributed a paper on the "Diognosis of Bone Disease by Means of the X-Rays." Drs. James Sears Waterman, Walter C. Wood and William B. Brinsmade presented interesting specimens.

Coroner's Physician.—Dr. Edward T. Higgins of 818 East 147th street has been appointed a Coroners' physician to succeed Dr. Edward J. Donlin, who was recently made a police surgeon.

Dr. Brooks, Zoo Pathologist.—By resolution of the Executive Committee of the New York Zoölogical Society, Dr. Harlow Brooks has been appointed pathologist to the New York Zoölogical Park. This is considered an important step in the extension of original scientfic work, for the park collections furnish a splendid field for the study of comparative

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pathology. A laboratory will be fitted up in the temporary administration building, now approaching completion, and this will be assigned to Dr. Brooks. In creating the position of pathologist, the Society has defined his duties as follows: "To make regular visits to the park, to examine into the hygienic condition of the animals, and to recommend such treatment and to make such autopsies and microscopic studies as will tend to advance our knowledge of the prevention and treatment of the diseases peculiar to animals in captivity."

Physical Education.—The twelfth annual meeting of the American Association for the Advancement of Physical Education was held April 18, 19 and 20, 1901. Physical training in the public schools was shown by visitation to several of the gymnasia in the schools of the boroughs of Manhattan and Brooklyn. The gymnasium of Columbia University, the Physical Development Institute, North American Gymnastic Union and the Young Men's Christian Association were also visited. The papers read in the Hall of the Board of Education were interesting and profitable. Physical examination, training and the value of athletics were well discussed. In the Section on Elementary Schools, the questions of hygienic school desks, hygienic instruction, children's games, etc., were among the topics treated. Psychology and psychological tests were made the subject of papers and discussions on Friday morning at Columbia University. These were followed by a number of valuable hygienic studies relative to metabolism and muscular exercise. The effects on blood pressure, the blood composition, influence of posture on respiration, etc., were among the more important papers.

Manhattan Dermatological Society.—A regular meeting of the Society was held on Friday evening, April 5th, at the residence of Dr. Wm. S. Gottheil. Dr. Geyser presented an extensive lupus vulgaris of the face successfully treated by the Roentgen rays. The right side showed a smooth, shining cicatrix, the left a superficial burn and an X-ray alopecia. Each sitting lasts from seven to ten minutes and is followed by a static spray which is said to "deaden" the pain. Fourteen cases have thus far been treated by him, with very fair results and no ill effects. This method is superior to Finsen's phototheraphy.

Dr. Gottheil presented a boy of ten years with a congenital growth under the right axilla, which consisted of very dark tuberous excrescences. There were a few isolated patches to the outside and a row of similar lesions along the inner side of the forearm. Opinion as to the diagnosis were asked. Dr. L. Weiss considered it a case of acanthosis nigricans. The region of the axilla was characteristic. Dr. J. Sobel would call it nævus linearis verrucusus. The linear distribution on the forearm corroborates the diagnosis. Dr. Gottheil considers it nævus unius latetis or nævus papillomatosus. Dr. J. Sobel presented two cases of pityriasis rosea in children of eight and twelve years respectively. Both showed lesions on the face, and complained of severe pruritus. The lesions take the characteristic mahogany color when painted with Lugol's solution (Allen's test).

Dr. Martus presented a girl, fourteen years of age, with a chancre of the labium and a generalized papulo-squamous-pustular syphiloderm. Sexual intercourse was admitted. Iritis, adenopathy and mucous patches existed.

Dr. Ludwig Weiss demonstrated the development of the molluscum fibrosum in a patient with multiple lesions. Some were more tangible than visible; other lesions were large, others small, some sessile, some pedunculated. A few were soft. Dr. Gottheil said the soft ones suggested an angiomatous element. Dr. Ochs remarked that in a similar case of his he had found Asiatic pill very efficient. Dr. Gottheil presented two patients, one with a positive, the other with a probable disseminated sarcoma cutis. The latter may be syphilis. Dr. Sobel showed a patient with a diffuse chrysarobin dermatitis following the use of a five-per-cent. ointment for psoriasis. Dr. Gottheil demonstrated the use of an elaborate apparatus for the Finsen treatment of dermatological lesions. Dr. Geyser presented a lupus vulgaris of the neck which had been subjected to one sitting of the X-ray. Dr. Gottheil showed a patient with a gummatous deposit in the sternocleidomastoid muscle and the clavicle.

Academy of Medicine.—The Section on Laryngology and Rhinology will meet Wednesday, April 24th. Dr. Clarence C. Rice will read a paper on "The Importance of Preventing Chronic Suppurating Ethmoid Disease by Prompt Local Treatment," and Dr. Beaman Douglass will read a paper on "Nasal Conditions Observed in the Aged."

For the Section on Obstetrics and Gynecology to be held Thursday, April 25th, the following papers are announced: "Symphyseotomy" by Dr. E. A. Ayers; "Cæsarian Section" by Dr. E. B. Cragin; "Dilatation of the Cervix" by Dr. H. J. Garrigues; "Axis-Traction Forceps" by Dr. E. H. Grandin, and "Version: Indications, Limitations and Technic" by Dr. S. Marx. A general discussion by Drs. R. A. Murray, H. C. Coe, Charles Jewett, H. J. Boldt, G. W. Jarman and others will follow.

Hospital Staff Appointments.—Among some of the successful candidates for hospital internships at the recent examinations are Dr. P. W. Bill, Methodist Episcopal Hospital; Drs. F. G. Hodgson and Condit, St. Luke's; Drs. S. V. Whitbeck and D. B. Deming, Roosevelt.

PHILADELPHIA.

Is Erysipelas Contagious?—A difference of opinion regarding this question is barring a Germantown domestic from the hospitals of

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this city, application to nearly all of which having been made by her physician. The general hospitals refuse the case because the disease is contagious. The authorities of the municipal hospital refuse the case because that hospital is for the treatment of contagious diseases only, the rules thus making erysipelas one of the diseases which cannot be treated there. The physician of the patient states that he is not prepared to say that erysipelas cases should be placed in surgical wards, but when in their proper place, the medical wards, there can be no possibility of contagion.

Tributes to the Memory of Dr. Pepper.—At the April meeting of the College of Physicians Dr. James Tyson read a memoir of the late Dr. William Pepper. The recital of what that remarkable man accomplished as a teacher, practitioner, organizer, founder, author, and as an executive, fills one with amazement. In addition to these points Dr. Tyson paid an eloquent tribute to Dr. Pepper as a colleague and a friend. A portrait of Dr. Pepper was presented to the American Philosophical Society April 12th. Dr. Horace Howard Furness, who presented the portrait on behalf of a number of the members of the Society, said in part: "By one noteworthy element in Dr. Pepper's temperament I was always impressed, and that was a sense of proportion. He had the faculty of differentiating values. His perspective was always true. At a glance he distinguished the permanent and the transitory. Therefore it is that the institutions with which he was connected or which he guided will for many a year to come follow out the lines which he, in his far-seeing wisdom, laid down. Ambition is proverbially selfish, and that he was ambitious we all know. But herein was what was almost his crowning quality. His ambition was never for himself. If he was exacting and determined in the pursuit of his ambition, it was not for his own ends. His ambition was set in the attainment of loftier planes for the institutions for which he toiled and planned. To the reflex effect upon himself or his fortunes of any course which he deemed of moment, I think he never gave a single thought."

Amend the Rules.—Daily newspapers so often make a muddle of matters medical by misquoting, using wrong terms, and becoming sensational in regard to items of news that we desire to give the *North American* credit for a strongly put, but appropriate editorial in the issue of April 15th. The case in question was that of a young colored woman who found her way to the Presbyterian Hospital just as she was to give birth to a child. The staff refused to admit her because they handle no maternity cases. Removed by a patrol wagon the woman was delivered of the child before the Philadelphia Hospital could be reached. The authorities of the first named institution upheld the action of the staff. The editorial is as follows: "Those managers of the Presbyterian Hospital make a grave mistake who attempt to justify the turning away from the doors of the institution of a woman in woman's last extremity. It was an inhumane, an un-Christian act. It is known that the Presbyterian is not a maternity hospital, and that to take in such patients under regular conditions is against the rules. But no hospital should have rules of a kind that will compel its staff to refuse emergency aid to a human being. We trust that the managers of the Presbyterian Hospital, instead of seeking excuses in palliation of an act which has shocked the humanity of the community, will be sufficiently wise to instruct the staff to be more anxious hereafter to behave mercifully in a crisis than to apply rules. In that way the managers may in part atone for the outrage of which a friendless and penniless and agonized woman was the victim."

Indigestion in Infants.—Dr. L. Emmett Holt of New York addressed the Pediatric Society April 9th on "Some Forms of Indigestion in Infants and Young Children, with Especial Reference to Their Dietetic Treatment." Dr. Holt spoke mainly of the chronic forms of indigestion, saying that the direct inheritance of indigestion is questionable. He also said that the average obstetrician has but little knowledge of proper infant-feeding and the pediatrist should have charge of the infant from the beginning instead of when it is one month old if the best results are to be attained. Infants can be accustomed to cow's milk only by careful training. Dr. Holt prefers milk from the Walker-Gordon Laboratory to any other infant food, the usual initial formula being 1 per cent. fat, 6 per cent. sugar, and 5 per cent. proteids.

Test of Food Is Comfort of the Child.—The healthy child is absolutely comfortable and this should be the condition sought in artificial feeding. Gain in weight may not be immediate and constipation frequently is present. But if the child is entirely comfortable wait for gain in weight and do not pay too much attention to the constipation. It will generally disappear when the food is made stronger. Vomiting may be a troublesome symptom. Gastric dilatation rarely has much to do with that condition, it being due more frequently to high fat percentages than to any other cause. In such cases avoid milk and cream and use milk and lime-water. When vomiting is caused by mucus, stomach washing is the only remedy. Attacks of acute indigestion may be caused by a surprisingly small quantity of cow's milk. Dr. Holt cited cases to show that these attacks may not be due to infection from the milk, as is generally supposed, but to the fact that the milk causes a condition favorable to the growth of germs already present. Death in these cases is due to the condition of the child and not to the milk. In view of this, careful attention

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should be paid to the history of the child and if previous attacks of indigestion have followed the use of cow's milk, its use should not be begun early.

Analysis of Breast Milk Is Unsatisfactory.—The analysis of breast milk to determine the cause in cases of indigestion in nursing infants is unsatisfactory. The true test is effect of the milk upon the child. If there is persistent indigestion with no gain in weight the case is hopeless and nursing should be stopped. If there is gain in weight, efforts should be made to overcome the indigestion. Change in diet is often of the utmost importance. Less milk, with higher percentages, and plain water between meals often give good results. Too much attention should not be paid to traditional opinions regarding the amount of fat and proteids in formulæ. The comfort of the child should be the real guide in any system of infant-feeding.

Pennsylvania Hospital.—The Pennsylvania Hospital, termed by its historian, Dr. Thomas G. Morton, "the Mother of American Hospitals," will celebrate on May 11th next the 150th anniversary of its establishment. It was founded by the Assembly of the Province of Pennsylvania in 1751, in response to a petition in the handwriting of Benjamin Franklin, which was drawn up at the suggestion of Dr. Thomas Bond. Funds were not plentiful, and it was only on the offer of Drs. Thomas Bond, Lloyd Zachary, and Phineas Bond to give their services for three years that a modest grant of £2,000 was made, to be supplemented by a like amount from private subscription. Since its inception, to quote from the Philadelphia *Ledger*, "the hospital has either led or kept pace with advancements in surgery and medicine. It was the first to introduce clinical teaching in this country, the first bedside instruction in medicine being given by Dr. Bond. It was the pioneer in this country in caring for the insane, and led the world in evolving and perfecting the humane and rational treatment of those suffering from disordered minds." Another circumstance that gives it fame is that it is the one great hospital in the country that has cared for wounded soldiers of the colonial and Revolutionary wars, the War of 1812, the Mexican War, the Civil War, and the Spanish-American war.

CHICAGO.

Sanatorium for Consumptives.—Members of the Illinois Society for the Prevention of Consumption are pushing the bill for a State sanatorium pending before the Legislature. As referred to the Committee on State Charities, the bill provides for the appropriation of $200,000 to purchase a site and construct appropriate fireproof buildings, and the building is to be known as the Illinois State Sanatorium. Provision is made for the appointment of three trustees by the Governor, under whose direction the appropriation shall be spent and the institution managed. Consulting physicians, a superintendent, a medical staff and other employes are to be selected by the Board of Trustees. Following is the section relative to the admission of patients: "The Superintendent and consulting physicians shall formulate such rules as they deem advisable, regulating the admission of persons afflicted with tuberculosis to the Illinois State Sanatorium, keeping in view the fact that in the early stage the disease is curable, and that the greatest good to the State is derived from the restoration to health and to their families of the dependent sick; therefore, the cases of incurable tuberculosis should be cared for in a separate institution, but perhaps on the same site, the said rules of admission to be approved by the Board of Trustees. The charges for the support of the inmates of the said institution as are of sufficient ability to pay for the same, or have persons or kindred, towns or cities, bound by law to maintain them, shall be paid by such inmates, such persons, or kindred towns or cities at a rate to be determined by the Trustees of said sanatorium. All persons citizens of the State of Illinois who shall be admitted to the sanatorium, and are indigent, shall be given medical care and board at the expense of the county of which they are residents." The passage of the bill is strongly urged as a step toward checking the increase of the prevalence of consumption. Authorities of the State Board of Health and officials of the Chicago Department of Health favor the bill.

Home for Epileptics.—There are five thousand epileptics in the State of Illinois, and the Board of Charities declares they should be removed from asylums and poor-houses and placed in an institution where they may receive proper attention. Two sites are suggested for the home—Grand de Tour, in Ogle County, and Elsah, in Jersey County. Three members of the Board favor the selection of Elsah, while only two recommend Grand de Tour. The necessity of providing a place for epileptics, so they may escape from their undesirable condition in almshouses and asylums, is acknowledged by all acquainted with the question. Most epileptics are able-bodied and require outdoor work and exercise. Ordinary treatment for the insane or feeble-minded is entirely inapplicable in epileptic cases. Chicagoans interested in the movement hope the Senate Committee will decide to locate the institution at Grand de Tour, not only because it is more advantageously located for this part of the State, but because, in the opinion of physicians and specialists, it is more healthful and better adapted for such a home.

The Skull and Its Contents.—Dr. W. H. Earles, of Milwaukee, read this paper. The conclusions of the paper were based upon the following propositions: (1) As a general proposition, it is safe to say that any injury to the head sufficiently violent to product fracture of the skull bones is also sufficiently violent to seriously injure the brain, its coverings or interfere with its circulation. (2) Many times blows upon the head without fracturing the bones produce such

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injuries to the brain as to cause serious trouble, both present and prospective. (3) Where such injuries exist, their treatment implies immediate effort to repair the soft parts. With present knowledge of the anatomy, physiology and focal centers of the brain, combined with the deductions drawn from past experiences in the surgery of this organ, both as regards interference and non-interference with traumatic and pathological conditions associated therewith, but one position is tenable, and but one conclusion logical, namely, that much more is possible than has been accomplished. Couple this conclusion with the safety afforded by surgical cleanliness, and it becomes fairly presumptive that reasonably successful surgical work upon the brain is possible, and from this work reasonably accurate results may be predicated. In summing up the author said he would use the trephine or chisel in every case of severe injury to the head, as evidenced by the symptoms and degree of force received. He would carefully examine the soft parts and, if found injured, would repair them at once. If this is not done at the time of the injury, then it should be done as soon thereafter as circumstances will admit, in the hope of preventing secondary sclerosis. When sclerosis has become established, the diseased area should be thoroughly excised, substituting healthy and comparatively non-irritating union for old diseased conditions. The physician should be certain that the offending area is the one removed.

College of Medicine and Surgery.—This institution has increased its capital stock from $10,000 to $50,000.

Memory of Dr. Thompson.—The memory of the late Dr. Mary H. Thompson is to be perpetuated by a large marble bust by Daniel Chester French, the sculptor, to be placed in the Art Institute.

GENERAL.

Appointment of Dr. Pozzi.—Dr. Samuel Pozzi has been appointed Professor of Clinical Gynecology in the Medical Faculty of the University of Paris.

National Association for Study of Epilepsy.—Among those who will read papers at the next regular meeting of this Association are Dr. A. E. Osborn, Wharton Sinkler, H. C. Rutter, W. F. Drewry, Max Mailhouse, Prof. Paul Koveleosky of St. Petersburg, W. Aldren Turner and G. Penn Gaskell of London, Frederick Peterson, B. M. Worsham, L. Pierce Clark and Wm. P. Spratling.

German Physicians' Association.—Berlin has an association of physicians who pay a sum equal to 5 per cent. of their income tax every year into the treasury. This yields about $12,000 a year, which is given to those members and their families who need help.

Plague at Ann Arbor.—It is decided that the case of suspected plague reported in last week's MEDICAL NEWS is one of true bubonic plague. The student, C. B. Hart, contracted the disease as a result of laboratory work with the organism.

A Doctor's Gift to the Blind.—We learn from the *Lancet* that Mr. George Scale, a medical practitioner of Portsmouth, England, who retired from practice in 1872 by reason of blindness, has left to the Corporation of Portsmouth a sum of $100,000 to provide annuities for the blind. The applicant must be over thirty years of age and be found worthy. The amount of each annuity is fixed at $150.

Association of American Medical Colleges.—The next regular meeting of this association will be held at the Hotel Ryan, St. Paul, Minnesota, Monday, June 3, 1901. It will consist of two sessions, an educational session and a business session. The educational session will be opened at 2 p. m. by the President's Address, followed by several papers of medical pedagogic interest. To this session all persons interested in medical education are respectfully invited. The representatives and associates of the Association of Southern Medical College have received a special invitation. The members of the Confederation of State Examining and Licensing Boards are also invited. There will also be an exhibition of work done in medical colleges. At 8 p. m. the business session will be held at which the amendments to the Constitution proposed by several colleges will be considered. The report of the judicial council, the election of members and the election of officers for the succeeding year will close the program.

Preliminary Program of the Ohio State Pediatric Society.—The annual meeting of this Society will be held in Cincinnati, May 7th, beginning at 2 p. m. and continuing through the evening and next forenoon until the program is completed. The Society will meet in the Convention Hall, Grand Hotel, which hotel will be the headquarters of the Society. The following papers will be read: "Phlyctenular Conjunctivitis," by S. C. Ayres, M.D., Cincinnati, O.; "Pemphigus Neonatorum," by A. Ravogli, M.D., Cincinnati, O.; "Infantile Nourishment," by George M. Clouse, M.D., Columbus, O.; "The Necessity of a More Perfect Aeration," by H. H. Spiers, M.D., Ravenna, O.; "Bloodless Reduction of Congenital Hip Dislocation," by Walter G. Stern, M.D., Cleveland, O.; "Chorea," by James H. Taylor, M.D., Indianapolis, Ind.; "Criminals and Defectives, How to Reduce Their Numbers," by J. R. McCally, Dayton, O.; "Dosimetric Medication in Pediatric Practice," by M. Borts, M.D., Cleveland, O.; "Ohio Institution for Feeble Minded," by G. A. Doren, M.D., Columbus, O.; "Coal Tar Derivatives in Children's Diseases," by J. B. McGee, M.D., Cleveland, O.; "Acute Intestinal Obstruction," by F. F. Lawrence, M.D., Columbus, O.; "Chronic Intestinal Obstruction, with Report of a Case," by D. S. Hanson, M.D., Cleveland, O.; "Purulent Ophthalmia in the New-born," by Edward Lauder, M.D., Cleveland, O.; "Malignant Diseases in Children, with Report of a Case,"

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by J. V. Kofron, M.D., Cleveland, O.; "Strumous Keratitis and Conjunctivitis," by Derrick T. Vail, M.D., Cincinnati, O.; "State Provision for the Care and Treatment of Crippled Children," by Frank H. Darby, M.D., Columbus, O.

Fifth International Congress of Physiologists.—In conformity with the resolution passed at the Fourth Congress at Cambridge, England, on August 26, 1898, the Fifth International Congress of Physiologists will be held this year at Turin, from the 17th to the 23d of September, in the Physiological Institute of the University, directed by Professor Angelo Mosso. The sessions of the 17th, 18th, 19th, and 20th of September will be occupied with the ordinary business of the Congress (demonstrations and communications). The 21st and 23d of September will be devoted to supplementary general sessions, at which the reports of the International Commission appointed at the Cambridge Congress (dealing with the standardizing of recording apparatus, calorimetric methods, and of units in the physiology of the senses, etc.) will be submitted, as well as other business.

In addition to the General Secretaries for the work of preparation for the Fifth Congress, Professor Frederic S. Lee (Columbia University, New York), Secretary of the American Physiological Society, will discharge secretarial duties in America. American physiologists who intend to be present at the Fifth Congress are requested to notify him.

English Drunkard Legislation.—An Habitual Drunkard's Bill introduced in Parliament recently by the Bishop of Winchester proposes novel methods of protecting the wife and children of the habitual drunkard by punishing saloon-keepers who sell drink to the habitual drunkard. The bill proposes the establishment of a black-list of persons declared to to be habitual drunkards, whose names are to be notified to the keepers of licensed houses within a specified area, with a direction not to serve them, and also makes the offence of being drunk when in charge of a child punishable by a special penalty. The status of an habitual drunkard is acquired by a man being within twelve months three times convicted of certain offences found by the court to be due to or helped along by drink. In such cases a man is to be declared an habitual drunkard. The order so declaring him is then to be sent to all license-holders within a certain area, and also to the chief police officer for the district. Serving such a drunkard with intoxicating drink renders the license-holder liable to a fine of $50 for the first offence and to a fine of $100 for subsequent offences, the drunkard also being liable to a fine of not more than $5. An alternative penalty is that instead of fining the saloon-keeper $100, his license be suspended for three months. The license of any saloon-keeper so convicted is to be endorsed accordingly. From the favorable consideration which this proposed bill has received, it is considered reasonably certain that some of its features will become law.

Obituary.—Dr. Frank Wayland Abbott, regarded as one of the foremost oculists in Western New York, died at his home, No. 523 Franklin street, Buffalo, N. Y., April 9th, after a protracted illness. Dr. Abbott was graduated from the University of Buffalo in 1866, and was oculist in chief at the General Hospital and the Eye, Ear, and Throat Hospital of Erie County.

Dr. William F. McClelland, who was one of the first physicians to make a study of the climatic influences of the mountain region upon pulmonary diseases, and who was widely known in America and Europe, through the performance of many difficult surgical operations, died April 12th at his home in Denver, Col., aged eighty years. Dr. McClelland left a large estate.

Dr. Block, of San Francisco, who has been studying in the Berlin clinics, died at Berlin, April 12th, of scarlet fever.

CORRESPONDENCE.

AN OBSTINATE CASE OF HICCOUGH.

To the Editor of the MEDICAL NEWS:

DEAR SIR: I wish to report briefly an obstinate case of hiccough. Carl J., aged twelve years, previous health good. Three years prior to this attack he had a similar one which lasted fourteen days. I did not see him during that attack, but have the history from his parents and family physician. During that attack he hiccoughed continuously. A mixture of bromide of potash and tincture of valerian relieved him. He has fair complexion, light hair, and is very intelligent. There is no history of any nerve trouble in parents or grandparents.

I saw the case throughout the second attack, and was met twice in consultation by two other physicians. I used asafœtida, acetanilid, bromides, chloral, camphor, ipecac, in emetic doses, soda, valerian, ether, chloroform, morphine, opium, electricity, mustard to stomach, and along the course of the pneumogastric nerves. A mixture of morphine and chloroform in simple syrup relieved him for eight or ten hours. This was the only thing that did him any good at any time. The appetite was good, but occasionally he vomited the food.

He was bright and cheerful most of the time. There was no rise of temperature. He slept comparatively well, although the hiccoughing continued with the same regularity as when awake. He seemed to have formed a habit of hiccoughing. This continued for sixty-five days, with the exception of one period of eight or ten hours, when it finally "wore itself out," and he got well in spite of treatment, and so far as I know has had no other attack.

C. C. HUBBARD, M.D.

Worthville, N. C.

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OUR LONDON LETTER.

[From Our Special Correspondent.]

LONDON, April 8, 1901.

THE NATIONAL HOSPITAL FOR THE PARALYZED AND EPILEPTIC—ITS MEDICAL STAFF AND ITS BOARD OF MANAGEMENT—AN ANOMALOUS OFFICIAL—CEPHALITIS NOSOCOMIALIS—A VICTORY FOR THE DOCTORS—MEDICAL M.P.'S—THE INTERNATIONAL CONGRESS ON TUBERCULOSIS.

THE thing most talked about in medical circles here at the present moment is the great quarrel between the governing body and the medical staff of the National Hospital for the Paralyzed and Epileptic. The institution is well known throughout the medical world by the work in neurology that has been done there during the last thirty or forty years by such men as Hughlings Jackson, Buzzard, Bastian, Ferrier, Gowers, and Victor Horsley. On this account a brief narrative of the facts which have led to the biggest scandal in hospital affairs that we have had for many years may be interesting to American readers. The National Hospital is managed by a board of laymen, the chairman of which is Mr. G. W. E. Russell, a member of the great Whig family whose head is the Duke of Bedford. He was for some years a Member of Parliament and more than once held subordinate offices under Gladstone. He is the author of a monograph on that moral, but mobile politician which would be described by the French as *"Gladstone intime,"* and he has added to the gaiety of club smoke-rooms by a miscellaneous assortment of chestnuts of various degrees of antiquity entitled "Collections and Recollections."

What is more to the present purpose, Mr. Russell is an ardent member of the antivivisection church militant. This of itself would be enough to put him out of harmony with a medical staff which includes men like Ferrier and Horsley who, in the eyes of antivivisection fanatics, are what the Scarlet Woman sitting on the Seven Hills is in those of antipopish bigots. But in addition to this particular "lost chord" of sympathy, there is yet another in the person of Mr. Burford Rawlings, a paid official who rejoices in the title of "Secretary Director." The office is as unique as the title, for the Secretary Director is practically the supreme authority in the hospital. It is only fair to state that Mr. Burford Rawlings has done much for the material prosperity of the hospital. He is a capable man, with a considerable talent for that peculiar kind of literary composition which is intended to screw the heart-strings of the charitable to subscription pitch. But his success in his proper sphere has had the not uncommon result of producing a form of enlargement of the skull which from the special frequency of its occurrence in persons concerned with hospital administration might perhaps be termed *cephalitis nosocomialis*. This condition, though as yet unrecognized by pathologists, should find a place among "occupation diseases" as "the swelled head of hospital secretaries." As the National Hospital has grown in importance and reputation, the mind of its Secretary Director, as Byron said of the visitor to St. Peter's in Rome, expanding with the genius of the spot, has grown colossal; and from the *servus servorum Dei* who do the work of the hospital, he has aspired to become their master. The medical staff on their part have collectively and individually a just sense of their own merits; some of them, indeed, have all the qualities of genius—except the unconsciousness which is one of its "notes." They naturally resented the threatened establishment of a dictatorship, and they said in effect, as our House of Commons did in the century before last, "that the power of the Crown had increased, was increasing and must be diminished." This, however, was not at all the view of the hospital "Crown," and the Secretary Director found his board as subservient to his dreams of empire as the Roman Senate was to those of Cæsar Augustus. But he could not bring the rebellious staff to what, in the style of addresses to the sovereign, is called a "loyal and dutiful" attitude. They continued to urge their demand for representation on the Board of Management, and they even had the audacity to issue a statement to the Governors in which it was alleged that, so far from all being for the best in the best of all possible hospitals, there were serious defects in the provision for the care of the patients and in the administration generally. This manifesto transformed what had previously been a policy of "pin-pricks" carried on within the walls of the hospital into open war before the world, or such fraction of it as reads the London newspapers. The board, which in density at least is a fine sample of British "heart of oak," has stolidly resisted the demands of the staff, apparently out of sheer incapacity to see the situation in its true light. At a meeting held on March 23d, however, it was at last made plain to them that the governors and subscribers are determined that the doctors should have a fair hearing. Mr. Russell delivered a speech in defence of himself and his colleagues in which he almost rivaled one of the most marvelous oratorical feats of his great exemplar. In the life of Mr. Childers, one of Beaconsfield's "extinct volcanoes," which has just appeared, it is related that Gladstone on one occasion, when he was afraid of Russia but did not wish to say so, got the House of Commons to vote him eleven millions of pounds without once mentioning Russia. With similar dexterity of evasion Mr. Russell gave an account of the war between his board and the staff, without once mentioning the Secretary Director. Notwithstanding all the shuffling and sophistry of the supporters of Mr. Burford Rawlings it was decided that an inquiry into all the matters in dispute should be made by an impartial committee. It is "significant of much" as Carlyle used to say, that this Committee was not appointed directly by the meeting, which preferred to depute the task of selecting it to an intermediary committee.

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There the matter rests for the time, but there can be little doubt that the doctors will win, and that the Secretary Director will find himself in the unpleasant dilemma presented to a former President of the French Republic and will be called upon *se soumettre ou se démettre.* The antivivisection interest will be worked for all it is worth against them. But they have the support of the whole medical profession at their back, and what Sheridan says of the stage may be said of doctors, "When they do agree their unanimity is wonderful." The public is beginning to see that the resignation of the staff would mean the ruin of a hospital which has come to be a Mecca of neurology, attracting scientific pilgrims from the ends of the earth. It is said that the resourceful Secretary Director has a new staff ready to take the place of the present one in case he succeeds in driving them from the field. But in the whole country there could be found no men worthy to unloose the latchets of the present staff's shoes, and none could be pressed into so degrading a service but men, in a professional sense, akin to the ragged recruits with whom Falstaff refused to march through Coventry.

Medical practitioners in England as a class have little time and less inclination to take an active part in political life. Politicians treat the profession as a negligible quantity, and it is very hard to move the legislature to do anything at all for the protection of its interests or indeed for the furtherance of schemes for the public welfare which owe their origin even indirectly to medical influence. In the House of Lords for the first time in the history of the nation there is, in the person of Lord Lister, a peer representative of medicine. In the House of Commons the profession is represented by less than a dozen members in an assembly of 670. It could scarcely be expected that this handful of special knowledge could leaven such a mass of ignorance, prejudice and indifference in matters medical. Yet our medical M. P.'s are on the whole fairly vigilant in seeing that the professional commonwealth suffers no detriment. Some of them are, to parody a phrase of Johnson's, politicians generated by the corruption of professors of physic, but others are worthy representatives of medicine and are held in general respect by the House. Sir Michael Foster, the Cambridge Professor of Physiology, who sits for the University of London, of which he is a graduate, lately made his maiden speech in a debate on pure beer—a question to which the recent revelations as to the connection between arsenic poisoning and beer has given "actuality." The ordinary M. P.'s *a priori* idea of a scientific professor is that he must be an unattractive blend of gravity and dulness. Sir Michael Foster's speech, therefore, was an agreeable surprise, for it was amusing as well as enlightening. If he can rid himself of a certain donnishness of manner, which is a predominant characteristic of men belonging to what are called here the older Universities (Oxford and Cambridge, to-wit), he is pretty sure to acquire considerable influence in Parliament. This he may be trusted to use for the promotion of medical science. Sir Walter Foster is another medical M. P. who is often confounded with Sir Michael, though no two men could be more utterly different in temper of mind or in personal appearance. Sir Walter Foster was a henchman of Gladstone, who gave him the title which enabled him to disencumber himself of his aggressively Oriental forename, Balthazar. He was a hospital physician at Birmingham, and has written on ailments of the heart and other parts. His marriage with the daughter of a wealthy philanthropist has made him independent of his profession, though he still sits at the receipt of custom when there is a chance of any coming his way. But his true vocation is politics. He is a passed master in all the arts of the wire puller and for a time disputed the supremacy of Chamberlain at Birmingham. He might be a power—of the second or third magnitude—in the House of Commons, but for the fact that he too obviously, like the Smith in the *Fair Maid of Perth,* fights for his own hand.

Dr. Robert Farquharson is one of the most popular members of the House of Commons. He was for some time a surgeon in the Guards; and afterward medical officer at Rugby, the school of which Thomas Arnold (the father of Matthew Arnold) was headmaster. Dr. Farquharson's next avatar was as a lecturer at St. Mary's Hospital, London, and, like most teachers, he felt that his position called upon him to publish a book. His "Manual of Therapeutics" was for a long time in high favor with the ingenuous youth of English medical schools. Owing to the death of a cousin Dr. Farquharson virtually retired from the profession some twenty years ago, blossoming into a Scotch "laird" and a Member of Parliament. Though in his capacity of legislator he does not care to be too much identified with medicine, he maintains an active interest in his profession. He was believed to be the one man in Parliament who understood the Public Health (for Scotland) Act, a movement as long and quite as abstruse as the "Shorter Catechism." Dr. Farquharson is too unambitious, and it may be added too straightforward, a man to make a great figure as a politician, but he may find compensation in the knowledge that he is universally popular and trusted both by Parliament and by the profession.

Sir John Batty Tuke, who succeeded the late Sir William Priestley as M. P. for the Universities of Edinburgh and St. Andrew's, has not been long enough in the House of Commons to have made his mark there. He has considerable reputation as a specialist in mental diseases and has held the dignified office of President of the Royal College of Physicians of Edinburgh. Of the other medical M. P.'s there is little to be said. Mr. Dillon (once described by his own colleagues of the Irish party as a "melancholy humbug"), Sir Robert Finlay, the Attorney General, and Sir George Pilkington, who owes his political im-

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portance to a successful venture in the matrimonial market, were all doctors by first intention, but can now scarcely be regarded as being within the pale. Dr. Robert Ambrose and Dr. Mark Antony Macdonnell, both of whom though practising in London are members for Irish constituencies, are little heard of in Parliament and not at all outside it. Dr. Tanner, another Irish member who won notoriety by his ultra-Hibernian rowdiness, is so broken in health that he is unlikely ever again to vex the soul of the Speaker. Dr. Rutherford Harris, the *fidus Achates* of Cecil Rhodes, was returned at the last election, but has just been unseated for bribery (proved against his agent). He too quickly found medicine too narrow for his expansive ambition, and found wealth in diamonds which he would hardly have found in drugs.

Since the dispatch of my last letter the prospects of the forthcoming International Congress on Tuberculosis have become distinctly brighter. The King has after all consented to be Patron, and the smile of royalty has materially stimulated the inflow of funds. The Congress will probably be opened by the Duke of Connaught as representative of the King.

TRANSACTIONS OF FOREIGN SOCIETIES.

British.

MODIFICATION OF SCHLEICH'S ANESTHETIC MIXTURE—CAUSE OF RHEUMATISM—ISOLATION OF SPECIFIC CAUSE—SOME PATHOLOGICAL CONSIDERATIONS—VALUE OF URINARY EXAMINATION—RHEUMATOID ARTHRITIS: ITS RELATION TO RHEUMATISM.

J. R. PROBYN-WILLIAMS, at the Society of Anesthetists, March 1, 1901, in conjunction with H. Barnard and R. J. Howard read a paper on a modification of Schleich's anesthetic mixture, as recently suggested by Wertheim of Vienna. It consists of chloroform, one part, petroleum ether, one part and sulphuric ether, two parts. Petroleum ether is now recognized in the appendix of the British Pharmacopœia where it is stated to have a specific gravity of 0.670 to 0.700. That used in their experiments showed only 0.643. With petroleum ether alone it was very difficult to kill the animals (cats) experimented with. The heart's action became more rapid, blood pressure in the arteries slowly fell, in the veins slowly rose. This increased venous pressure apparently explained the increase in the heart's volume. All these features contrast strongly with those shown by chloroform alone. With the above mixture hardly any circulatory signs were noted until the anesthetic was pushed to the extreme. In practice they have used it thirty-four times with great success on operations varying from five to forty-five minutes. The induction of anesthesia is prompt, usually less than eight minutes, easy, free of cyanosis or other cardio-pulmonary disagreeable symptoms. The hypersecretion of mucus so often present with ether was commonly absent. The degree of anesthesia was deep enough for all operative purposes with complete muscular relaxation, but so light that the patients recovered very promptly. The pupils reacted just as in the A. C. E. mixture. Shallow breathing was not observed so long as the mixture was given sufficiently freely. There were no serious after-effects. Vomiting resembled that of chloroform narcosis. The effects of postural change had not yet been determined.

F. J. BOYNTON and A. PAINE, at the Chelsea Clinical Society, March 12, 1901, read a paper jointly prepared on the infective character of acute rheumatism, and more especially with the relation which the various chronic forms bear to the causation of the acute type. In their experience rheumatism is a very definite disease, running a definite course and with rather definite lesions and symptoms. All this strongly points to the suggestion that a distinct germ is at the bottom of the disease. If, now, a germ is constantly recoverable from patients suffering with rheumatism and when injected into animals constantly produces the same lesions, it is highly probable that these germs are the cause of the disease. Pleurisy, pericarditis and nodules are just as much direct manifestations of the disease as are the polyarthritic signs. To hold that the joint lesions are the only true ones is not in accordance with the modern ideas of the disease. Although the salicylates are of value in some cases, because they are of service in a given one is not a proof that an obscure lesion is essentially rheumatic. They think they have weakened the position of those who claim that virulent rheumatism is the result of a mixed infection, because they have demonstrated that at the site of the lesions the rheumatic germs are readily destroyed and are therefore very difficult to find. From fourteen patients with rheumatic fever they have isolated a diplococcus which grows in chains in fluid media and in staphylococcic masses in solid media. Triboulet before and Wasseoneau and Malkoff during the time they were working had also isolated a diplococcus from acute rheumatism. During the past year F. Meyer has been experimenting with cases of rheumatic angina and has recovered a diplococcus which in most of its morphological characters and in all of its general results in animals after injection resembles the germ they have been describing. Their experiments have been more detailed than those of other observers and though various observers have used different media the general character of the germs are so similar as to make it very probable the cocci are identical. Meyer used a strongly alkaline and they a feebly acid medium, but the germ of each grew best on blood agar which is faintly alkaline. They have isolated this germ three times from patients with rheumatic pericarditis from the blood, twice from the throat, four times from the pericardium itself, growing them also in the exudations, twice from the urine, once from the cardiac valves and once from a rheumatic nodule. The lesions produced

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in a rabbit after inoculation are identical to those produced in man. For the inoculations undoubted cases of rheumatic fever were chosen and not a shadow of doubt was entertained by the physicians Cheadle, Lees, Penrose and Garrod in attendance as to the nature of the disease. They therefore believe that if they strip the disease of valvulitis, polyarthritis, pericarditis, pleurisy and nodules it is very difficult to believe in its existence except perhaps as a constitutional tendency. They thought therefore that the pathology of the disease is now on a much firmer basis than heretofore and that when the toxins are once isolated the lesions will probably still further be explicable, both in acute and in chronic cases. They have repeatedly found the diplococcus in the joints of injected rabbits and equally frequently found them in those of rheumatic patients. In general such facts bring rheumatic joints into line with those found in pneumonia and gonorrhea as manifestations of a local infection. According to the researches of Bannatyne, Wohlmann and Blaxall, rheumatoid arthritis must also be included in this series. Gouty and syphilitic joints remain yet as those unexplained by any discovered micro-organism. It seems likely that gout is not of this class, but that syphilis very probably is, but the germ remains still to be isolated. The kidneys must be regarded as the chief avenue of elimination of the micro-organisms. The parenchymatous changes were not necessarily permanent. Although a moderate albuminuria and in malignant cases hematuria and a large quantity of albumin appeared, it seems as though the kidneys should recover without any very great damage. In rheumatism it is more and more desirable to study the urine and ascertain how the organs are acting. Probably it will be found on such observations that albuminuria of the cyclical or evanescent type depends rather completely on rheumatism or its manifestations. The similarity between gout and rheumatism suggests the indication for regular urinalysis in all cases of the latter disease. Some of the cases of malignant endocarditis they have become satisfied are the result of pure rheumatic infection without supposing the intervention of any mixed infection. Again, in certain of the joint lesions involving a destruction of the cartilages themselves, it is quite certain that only the diplococcus was at work. Hence we must assume that the disease is capable of very toxic effects, systemically and locally in the heart-valves and joint-tissues, depending as in all infections upon the virulence and quantity of the infecting germs and upon the general focal resistance of the patient.

N. C. MACNAMARA, in the discussion, said that the various toxic chemical products of germs within the system were of highly different degrees of destructive effects. For example, there are the rapidly dangerous action of the pyemic processes, the exceedingly slow course of leprosy and the arthritic manifestations of gonorrheal arthritis which may be taken as an example of processes midway between the other two. No possible doubt exists as to the truly infective nature of the gonorrheal joint affections, nor to the abundant presence of this coccus in the joint tissues. Again, the final results in the joint are peculiarly and specially analogous to those of rheumatoid arthritis. Todd years ago dwelt on the possible relation between the leucorrheal discharges and this absorption into the body from the uterine cavity and the old joint affections of the rheumatoid arthritic type in women. In 1885 Macnamara had seen a twenty-five-year-old woman in whom the presence of very extensive dental caries was the cause of a rheumatoid arthritis going on to considerable deformity and ankylosis. Since then in all cases of arthritis rheumatodea he has regularly sought and treated any possible source of general septic absorption, as the first step in a rational treatment. While it is perfectly true a percentage of the cases depend entirely upon rheumatism or gout or a neurosis, another large proportion are attributable to some form of constant chronic septic absorption, which must be removed or in some way alleviated in the true treatment.

C. O. HAWTHORNE discussed the relation existing between acute rheumatism and chronic rheumatoid arthritis as cause and effect, admitting that acute rheumatism is manifested by fever, pain and swelling in various joints, that subacute rheumatism is identical with what is also called rheumatic fever. Rheumatoid arthritis is a chronic condition which some authorities regard as the chronic stage of the others or as the clinical manifestations of a different disease. Among the causes of chronic rheumatoid arthitis distinct from any relation to subacute or acute rheumatism are the action of germs in the joints, of septic absorption from a focus elsewhere in the body and of a nervous disease variously assumed to be either primarily located in the spinal cord or in the pelvic or other viscera and from these the cord becomes secondarily involved and then the joints. There are some cases of this affection which follow directly upon an attack of acute or subacute rheumatic fever, others which occur in families in which many of the direct connections of the patients have had rheumatism. The absence of a cardiac complication in rheumatoid arthritis can no longer be accepted as the dividing line between the two diseases, because in rheumatism the heart is oftenest affected in childhood, next in adolescence, and so on progressively less and less as age advances. Most cases of rheumatoid arthritis occur in midlife and later. Charcot says that cardiac disease is of rather frequent occurrence in the true forms of this disease. Again, there are cases where a differential diagnosis between true rheumatism and true rheumatoid arthritis is wellnigh impossible. Trousseau has lately demonstrated cardiac trouble in "nodular rheumatic" disease. The speaker had himself lately seen it appear in a case of well-defined rheumatoid arthritis. The nodules of the skin, so common in childhood and youth during

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rheumatism, may also appear during the rheumatoid arthritic conditions, but are more persistent, like the disease itself. Since such nodules appear in gout and in other conditions, too much can not be assumed here, but certainly the fact is strongly suggestive. It is known that certain spinal cord diseases produce vast muscular diseases and atrophy and also are capable of affecting in destructive trophic changes the joints themselves. While this is true it is also a fact that in any joint affection whatever involving rest the muscles which are concerned in its functions atrophy. This is a highly more likely cause of the muscular atrophy than a spinal lesion on account of the very great rapidity of the change. On the other hand, it is certainly conceivable that the joint lesions no matter what their cause may be set up by centripetal impulses, which, reaching the cord, initiate trophic centrifugal impulses which atrophy the muscles. Whether or not the rheumatoid arthritic changes are manifestations of true rheumatism he could not say. Like many other things in medicine too little is at the moment known about all this class of disease for us to venture any definite opinion or do more than indicate possibilities.

SOCIETY PROCEEDINGS.

NEW YORK NEUROLOGICAL SOCIETY.

Stated Meeting, Held March 5, 1901.

The President, Joseph Collins, M.D., in the Chair.

Patient for Diagnosis.—Dr. Joseph Collins presented for diagnosis and discussion a boy of ten years who presented a complex of symptoms which could not easily be placed under any one designation. He was one of twelve children, seven of whom in infancy had had marasmus or gastro-intestinal disorders. The present ailment had begun about nine months ago, at which time the boy had commenced to "hop." He complained of pain in the great toe of the left side, and also of pain in the precordial region. He had then been taken to the Mt. Sinai Hospital and while there it had been noted that there was some stiffness or weakness in the lower limbs on walking. This impairment of motion had steadily increased, so that at the present time he was practically unable to walk more than a few steps. According to the history, there had been early in the disease great difficulty in commencing the act of micturition. At present there were no symptoms referable to the bowel or bladder. He has a peculiar waddling gait, and when standing, there is a typical flatfoot. There is a peculiar knocking together of the thighs. The spasticity of the gait had been found, on closer examination, to be more apparent than real. There is a marked ankle clonus. There are no sensory disturbances. He gets up from the lying position as children do in the early stages of progressive muscular dystrophy. These symptoms, the speaker said, seemed to point distinctly to a lesion in the spinal cord in the crossed pyramidal tracts.

Dr. B. Sachs said that he had been much interested in this boy at the time he had been in the hospital. The combination of the waddling gait, so characteristic of the dystrophy, with an increase in the reflexes, seemed to be especially unusual. When the boy was stripped, it seemed to him very evident that he had progressive muscular atrophy of the Landouzy type. In addition to this he thought there was a subacute myelitis, possibly of traumatic origin. There could be no question that the calves are hypertrophied. This diagnosis had been arrived at only after careful observation for a period of several weeks. The frequent falls which such children have would easily explain the occurrence of a subacute myelitis. The spasticity had been more marked nine weeks ago.

Dr. Joseph Fraenkel said that the most prominent symptoms were those of disease of the lateral and posterior columns. At first sight the gait was that of ataxic paraplegia. On the supposition that the myelitis was the later disease one would expect less evidence of the second. The evidences of pseudohypertrophy were very marked. He inclined to the diagnosis of a subacute multiple sclerosis of a paraplegic type.

Dr. Collins thought it was safe to assume that the boy had a dystrophy, but not that there was a subacute myelitis. No one could say whether the changes in the spinal cord which accompany the dystrophies are not of such nature that double ankle clonus and double knee jerk might not develop. It was certainly a form of dystrophy which does not conform strictly to the description of any usually given. If there were an implication of the cord it was confined entirely to the crossed pyramidal tracts. He would not be willing to admit there there are any changes in the spinal cord except secondary ones.

Progressive Muscular Dystrophies with a Report of a Postmortem Examination.—Drs. B. Sachs and Harlow Brooks presented this paper. The authors stated that it could not be denied that there was any sufficient distinction between the amyotrophies and the dystrophies. In former years much stress had been laid on the muscular structure. Hypertrophied fibers were found in abundance in dystrophies, whereas in the amytrophies these fibers were not found. But later it had been shown that the hypertrophied fibers were found in other diseases than dystrophies. It was also a question whether the gray matter of the cord was affected in the primary dystrophies. The case to be reported was one of progressive muscular dystrophy of fifteen years' duration, yet the structural changes, as demonstrated by the

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latest methods of staining, were very slight. The patient had been admitted to the Montefiore Home eleven years ago at the age of twelve years. Early in life the parents had noticed peculiar movements of the head and eyes. He had been in good health up to about the age of twelve years, when he had fallen and broken his leg. At the age of twelve years, after an attack of typhoid fever, it had been noted that the calves were decidedly hypertrophied. The head was enlarged and exhibited certain movements. There was a marked atrophy of all the muscles of the shoulder girdle, arm and forearm. The deep spinal muscles were intensely atrophied. The thigh muscles were atrophied. The case became an extreme illustration of a progressive muscular disease of the pseudohypertrophic type. The lad's intelligence was fair.

Muscular Pathology.—Dr. Brooks said that at the autopsy the organs were normal with the exception of an acute pneumonia and a slight myocarditis. There were no gross lesions of the brain or spinal cord. No lesion of the smooth voluntary muscular tissue could be found anywhere in the body. The psoas muscle showed extensive fibrosis. The muscles of the back all showed extensive fibroid replacement, and in places, there was a replacement by yellow fat. The trapezii were very extensively invaded. The most extreme changes were in the muscles of the calves where normal muscular tissue was lost. The autopsy had been done twenty-four hours after death, and at that time there had been no evidence of postmortem decomposition. On microscopical examination, the muscles showed extensive replacement with areolar tissue of the adult type. In the calf, occasional remnants of voluntary muscle were found. Most of the fibers of the psoas muscles were either larger or smaller than normal. The coarse striæ could usually be made out. The changes in the other voluntary muscles were of the same character, though varying in extent. In the occipital muscles the amount of connective tissue hyperplasia was less, but nuclear proliferation was prominent. Examination of various portions of the smooth muscles failed to show degeneration or hyperplasia of the connective tissue forming its framework. The heart muscle showed much less connective tissue increase than had been expected from the gross examination. The cardiac muscle was in a very natural condition, there being no atrophy, no abnormal pigmentation or abnormal nuclear activity. The blood vessels in the various tissues showed uniformly an increase in the connective tissue. No evidences of new vessel formation were found.

Nerve Cell Changes.—Numerous peripheral nerves were examined, but no appreciable degeneration of fibers was discovered. Only a few of the spinal ganglia had been properly prepared for examination, but these few showed a shrinkage of the ganglion cells similar to that produced by fixing agents. The irregular perilymphatic spaces were, however, found filled in with proliferating capsular cells, apparently indicating that this was not an artefact, but a distinct pathological process. Apparently the connective tissue of the ganglia had been increased. The connective tissue throughout the entire cord was found to be increased. The blood vessels of the cord were universally congested, but this was apparently of a hypostatic nature, due to the position of the patient before death. Nothing in the nature of a systemic degeneration of the fibers was found at any level. In the cervical region the ganglion cells in the anterior horn showed a slight nuclear eccentricity. The dendrites universally retained their power to respond to the stain. Occasionally the achromatic elements stained to a slight degree. Eccentricity of the nucleus was found more commonly in the dorsal cord than elsewhere. Lesions in the cells of the posterior horns were more infrequent than in the anterior horns. The most common lesion was a finely granular sub-division of the plaques, usually not involving the entire cytoplasm. A few of the lumbar cells showed an unusual amount of brown pigment collected about the nucleus.

Summary of Lesions.—The chief lesions were: (1) Extensive atrophy, which affected apparently all of the voluntary skeletal muscles and was confined to these muscles; (2) the production of areolar connective tissue and adipose; (3) slight general perivascular hyperplasia; (4) moderate interstitial myocarditis; (5) extensive degenerative changes in a few of the posterior root ganglia, and (6) rare changes in the cytoplasm of the ganglion cells of the spinal cord. The complete absence of the changes in the smooth muscles showed that the disease process was strictly localized in the voluntary muscular system. The authors did not look upon the connective tissue increase as an essential feature of the pathological process, but as an example of a universal function of this tissue to take the place of any tissue which had been removed. The perivascular connective tissue hyperplasia was very slight, and could not be considered as typical of the disease or as produced by it. Possibly the moderate myocarditis was associated with the connective tissue hyperplasia of the blood vessels. It did not seem to be in any way connected with the factors producing atrophy of the voluntary muscles. The changes in the posterior root ganglia seemed to be of great significance, though it was not clear that they bore any direct relation to the changes in the voluntary muscles. These degenerations seemed to be secondary in their nature, and dependent upon death or disease of certain portions of the neuron. A process similar to this occurs after amputation. There were no evidences of tract disease. The cytoplasm

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changes of the ganglion cells of the cord were rare, and might represent the early stage of postmortem change.

Dr. Sachs said that these findings did not indicate that the cause was to be found in the gray matter of the cord. The disease represents a primary affection of the muscular fiber. The occurrence of stigmata of degeneration in so many cases of this dystrophy would lead one to think that these should be broadly classified under family affections. The question arose as to whether these muscular dystrophies were essentially progressive, and the statement was made that in every case the possibility of great improvement by systematic exercise should always be kept in mind in the early stage. Two illustrative cases, which had been followed for many years, were briefly reported.

Non-Progressive Cases.—Dr. C. L. Dana said that so far as the dystrophies were concerned, which were not strictly of the so-called pseudohypertrophic type but rather of the arm and leg type, it seemed to be a well-known fact that many of them cease to progress and live for many years in comparative comfort. He had personal knowledge of two families in which there were six or seven persons, going through three generations, who were afflicted with the leg or arm type of dystrophy. Some had lived to old age with only an inability to use the upper arm or perhaps the thigh muscles. One of these cases had been seen at many clinics in this city when thirty-nine years of age. The atrophies had begun at the age of nineteen, and had reached their height at about the age of twenty-nine. His weight had been reduced to eighty-eight pounds. A fairly hopeful prognosis could be given this class of cases especially when the atrophies do not begin very early in life. In his experience with pseudomuscular hypertrophy there had been only one case in which the disease had been really checked. This person was a woman of twenty-three in whom the trouble had begun at the age of eighteen. She had presented all of the typical symptoms of pseudohypertrophy of late development. He had put her on systematic exercises, and as a result the disease had not only ceased to progress, but she had absolutely improved. In another case which had been faithfully treated by exercise and massage for four years, there had been continued progress. Dr. Dana said he would like to have Dr. Brooks explain why there should be so much fibrosis in these cases. It might be that in the death of the muscle fiber an irritant poison is formed, and that this gives rise to the increased proliferation. There was a striking difference clinically between a typical spinal atrophy and an ordinary dystrophy, and he believed these diseases were very different in their origin also. The hereditary cases were of a type which is quite distinct from that of the acquired forms.

Early Invasion Not as Hopeful.—Dr. A. Wiener said that about six years ago he had presented to this Society a patient who was very much crippled in his muscular movements. In that case he had been so convinced that many muscular fibers were still intact that he had carefully trained him in exercises for six months. He had been again presented to the Society at the end of that time, and the improvement had certainly been very marked—indeed, the day previous he had been able to ride forty miles on his bicycle. On the other hand, in the dystrophies occurring early in life he did not believe much could be gained by exercise.

Dr. Leszynsky exhibited photographs of two patients whom he had had under his care for a number of years with pseudohypertrophy of the lower extremities and progressive muscular atrophy of the upper extremities. Both had died of some intercurrent disease at the age of twenty-five. Before he had seen them both had received massage and careful training in physical exercise.

Dr. Hammond said that he had recently made a postmortem examination on a case of pseudohypertrophy with rather interesting findings. In the lumbar enlargement of the cord there had been found a distinct cavity extending for several inches. In the dorsal segment was a large gliomatous mass pressing upon the cord. This was apparently a lesion independent of the disease in question. He was in a position to agree entirely with Dr. Wiener as to the beneficial effect of exercise. He had tried systematic exercise in those affected early in life, and had not found the slightest benefit from carefully conducted exercises of this kind carried on for a considerable time.

Dr. B. Onuf said that the muscles which have to do the most work were the ones most affected; the muscles which must bear the weight of the body are the first ones to become affected. It was because of this fact that he had been led to try the effect of the opposite plan of treatment, *i.e.*, rest in bed. However, the result had been disappointing.

Dr. Collins said that the postmortem examination referred to by Dr. Hammond had been on a patient that had been under his own observation for over two years. This man had been twenty-four years of age at the time of his death, and the disease had existed for fourteen years. Careful investigation into the family history had shown no similar case. Up to his eleventh year he had been free from all disease. For eleven years he had been unable to walk, and for eight years had been bedridden. Up to a short time before death he had retained the ability to move his finger though he could not move his arm, and his facial muscles continued to act well. It was almost typical case of progressive muscular dystrophy. Death had resulted from a tuberculous

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infection. The brain reported on by Dr. Sachs had been from a boy under his observation for six or seven years. Assiduous attention to calisthenic exercises had made him worse in proportion to the assiduity, and that too although he had had an excellent calisthenic teacher. This had been Dr. Collins' experience in all other cases in which the disease had begun early in life. The changes described by Dr. Brooks as having taken place in the ganglion cells certainly opposed one's ideas of the relation of the neuron to disease. After five years' experience with the Nissl stain he felt in a position to assert positively that nuclear eccentricity means absolutely nothing.

Dr. Smith Ely Jelliffe said that he had heard nothing said by Dr. Brooks about the terminal end plate of the motor nerve.

Dr. Brooks replied that after attempting to study end plates he had come to the conclusion that this could only be done with methylene blue during life, and that he had been unable to do. He could not tell Dr. Dana why the connective tissue should grow up so much more in one place than in another. In the calves there had been an increase in volume, and in the pectoral muscles a decrease. It was not improbable that it was due to some inflammatory or toxemic condition in these particular muscles, or possibly that the muscle had been over exercised. He agreed with Dr. Collins about the uncertainty of the Nissl stain, and that the findings described by him as having been observed in the ganglion cells were negative.

Dr. Sachs closed the discussion. He admitted that the findings reported in the paper certainly did tend to shock one's confidence in the neuron theory as a whole.

NEW YORK ACADEMY OF MEDICINE—SECTION ON ORTHOPEDIC SURGERY.

Stated Meeting, Held March 15, 1901.

George R. Elliott, M.D., Chairman.

Infantile Spinal Paralysis.—Dr. Homer Gibney presented a boy, aged eleven years, who had had infantile spinal paralysis. There was equino-varus of the left foot with slight cavus. According to previous history, astragalectomy had been performed five years previously without beneficial results. November last Dr. Gibney exposed the tarsal bones, curetted the cartilages, sutured the wound and applied a plaster-of-Paris bandage. The result was that the foot was shown at a right angle with slight motion.

Acute Hip Disease.—A second patient, a girl six years of age, was shown by Dr. Gibney. She was suffering from acute hip disease when first seen in October, 1899. A brace was applied and the child put to bed. Her hip became worse; the hip was stretched and a plaster-of-Paris spica was applied. An abscess developed and was opened January, 1900. Improvement followed the incision, but owing to a profuse discharge, fever and loss of flesh, the hip was excised April, 1900. The child improved rapidly after the operation; a small sinus remained.

Paraplegia Complicating Spinal Caries.—Dr. Gibney presented a third patient, a girl nine years of age. She was admitted to hospital December, 1900, with the history that her disease followed an attack of diphtheria five years previously. A plaster-of-Paris jacket was worn for six weeks at onset of disease and then for eighteen months she wore a Taylor brace with head-rest attachment. In 1897 she had an attack of paraplegia which lasted six months. One year ago she had a second attack which persisted at the time of admission into the hospital. There was at that time paraplegia, incontinence of urine, increased reflexes with marked ankle clonus. December last the child was put to bed wearing a plaster-of-Paris jacket with head extension. The jacket was reapplied January, 1901, with head extension and plaster straps over the shoulders. A third jacket was applied February 21st. Improvement was gradual and child was shown with fairly good voluntary use of legs.

Dr. Royal Whitman said he hardly thought it fair to say that the paraplegia developed while under treatment by the Taylor brace. The child had come under his observation four years before with very slight deformity. The child was under poor control and had been through many hands, including osteopaths. Recently he had again seen her and referred her to the Hospital for Ruptured and Crippled. He would suggest that the case was one that illustrated ineffective treatment rather than mechanical treatment of any form.

Dr. Gibney said he simply showed the patient to demonstrate the effect of a well-applied apparatus. As a matter of fact, the paraplegia did develop while the child was wearing a Taylor brace, but was under no one's medical or surgical care. The brace was ill fitting, in fact worse than useless.

Coxa Vera.—Dr. W. R. Townsend presented a boy, fifteen years old, who came to the Hospital for Ruptured and Crippled one month ago, with the history that without any apparent cause one year previous he began to have difficulty in walking and was easily fatigued. The difficulty in locomotion had steadily increased. The limbs were equal in length and the X-ray revealed a very marked case of coxa vera. There was limitation of motion and the great trochanters were one inch above Nelaton's line. Limitation of motion, especially in flexion and extension, was very great. There was not over 15 degrees of motion on the right side and none on the left. Standing the knees could not be separated more than three inches. The patient sat with difficulty. A radiograph was

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shown. He asked if any member of the Section had seen a case of coxa vera with so much limitation of motion.

Dr. Whitman said that limitations of flexion was always present in these cases, although limitation of abduction was the more marked feature. He stated that some years ago he had presented a patient before the Section with even more marked disability than the present one. In that case the deformity progressed until the patient was totally disabled. After the acute symptoms subsided he performed an osteotomy on one femur with so good a result that the operation for the lesser deformity was never made. The man finally recovered perfectly; motion returned as far as flexion and extension were concerned. He believed that operative treatment would completely relieve the condition.

Spondylose Rhizomelique.—Dr. Townsend presented a man, thirty-five years old, who five years ago began to have stiffness of the back and difficulty in walking, He had two attacks of muscular rheumatism. He had had no pain excepting in the upper part of the back and when sitting. These symptoms increased until the present time; he was obliged to use crutches. The thighs were flexed on the pelvis about 20 degrees; extension and flexion were much restricted. He regarded the lesion of the hip-joints and the spinal stiffness as typical of spondylose rhizomelique. He suggested a plaster-of-Paris jacket as of some service.

Dr. George R. Elliott said errors of diagnosis were not infrequently made and the disease mistaken for one of the varieties of chronic spinal rheumatism; frequently great spinal pain and hyperalgesia accompanied by the progress of the disease, subsiding after a while. He referred to a patient he had seen a few years ago, before the disease had been carefully described, whom he examined under an anesthetic owing to the great degree of pain present. The pain subsided after three or four years—the marked ankylosis so characteristic of the central type of the disease remaining. This patient was shown before the Neurological Society by Drs. Sachs and Fraenkel (Oct. 18, 1899).

Dr. Townsend showed two radiographs, one showing union of a fracture of the neck of the femur after use of a long traction hip-splint (patient shown before Section Jan. 11, 1901); the other radiograph was of a case of double dislocation of the hip-joint which had been treated by the bloodless reduction eight weeks before. The picture was taken through the plaster-of-Paris splint.

Congenital Clubfoot.—Dr. Judson presented a boy, five years old, first seen when there was marked and resistant typical double deformity which had been reduced by the painless continuous leverage of a simple brace applied with adhesive plaster and often removed for manipulation of the feet; later a walking brace had been used; all the apparatus used was of a common kind with a single invisible upright. The braces were made of tractable metal allowing change from the deformity to the normal and later to overcorrection. The feet followed these changes through force of adhesive plaster and later by body weight. At the age of fifteen months the deformity had disappeared. Treatment was resumed after seven months' interval the outer border of the feet having become slightly callous; walking braces were applied and worn for twenty-two months, finally laid aside January 15, 1900. On presentation the child walked and ran with normal ability and without defect in his gait. The only remaining defects were slightly shortened Achilles tendons, but these were slight as he could even walk on his heels. In this affection the following were to be considered as favorable elements: (1) The certainty of rapid growth; (2) the plastic or formative condition of the parts; (3) the absence of body weight for eighteen months; (4) the certain effect of continuous leverage; (5) the weight of the body applied on the right side of the plane between varus and valgus in virtue of which the child could stamp his foot straight; (6) the absence of necessity for haste; (7) use of tractable metal. An unfavorable point was the postponement of treatment till the child was two years old.

Dr. Whitman said he could not agree that Dr. Judson's case should be considered at all remarkable as to result; it was an average case and an average result. It was evident that there was still a slight tendency to varus dependent upon the slight equinus which still persisted. This, he thought, illustrated the weak point in Dr. Judson's scheme of treatment, that having overcorrected the varus deformity, he depended upon the weight of the body to overcome the residual equinus, whereas this deformity should be as thoroughly overcorrected during active treatment as the varus.

Dr. Judson replied that a further elaboration of the principles of continuous leverage would have secured a normal tendo Achillis and completely corrected the equinus; while the result was not absolutely perfect, he considered it as supporting the statement that an operation or violence was in this affection a confession of failure at some time in the history. In practice the resistance of tissues was one of the lesser difficulties to be overcome in the management of cases of this kind. Greater obstacles were unreasonable haste to see a result and mistaken reliance on rapid and easy methods.

Dr. Taylor regarded the result as very creditable, but did not think that all danger of a relapse was passed. He did not agree with several of Dr. Judson's statements which implied that operations were never indicated; operative treatment was often unsatisfactory, if not combined with and followed by mechanical treatment; each method had its proper field

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and often both were needed. While himself inclining to conservatism, he considered Dr. Judson's remark in disparagement of operative interference much too sweeping.

Funnel Chest.—Dr. Judson presented a man, seventy-one years old, having a deformity which although rare, had been described by a number of observers. It was a curious malformation, entailing no great disability, of uncertain origin and calling for no treatment. From an angular projection at the junction of the manubrium and the gladiolus there was a continuous depression till the deepest place was reached at the end of the xiphoid appendix. The cartilages of the lower ribs were prominent, as usual, on each side and the front of the chest, although somewhat flat, was normal except for this funnel-like depression which began on each side at the nipple line and was cup-shaped at the bottom with a depth of 1½ in., unchanged by expiration (31 in.) or inspiration (34 in.). The man said he had always been so and had never known of another person similarly affected in his family. He had eighteen brothers and sisters. He had been fond of athletic sports in his youth, was a shoemaker by occupation and had enlisted in the military service in 1862. There was no history or sign of rickets or spinal disease. He had been free from notable diseases of the chest or otherwise, although years ago he had been told that he had serious chronic lung disease.

Dr. H. S. Stokes said it was difficult and frequently impossible to make a correct physical diagnosis when chest deformity existed. He cited a case of Pott's disease where the patient had been told four years ago that he had pulmonary tuberculosis and a bad prognosis had been made. He had frequently examined the sputum of this patient with negative results; all signs of lung involvement disappeared. He cited two cases of lateral spinal curvature which had lately come under his notice where errors of diagnosis had been made. In one the diagnosis of tubercular consolidation was made which turned out a slight bronchitis.

Poliomyelitis.—Dr. Myers presented a case of poliomyelitis in a boy, thirteen years old; the disease dated from early infancy; the case was exhibited to show the muscular changes—the right quadriceps was completely paralyzed and the right ligament patella was one inch long; the left quadriceps was fairly strong and the lig. patella 2¼ inches long. Osteotomy had been performed on the right side for a recurring genu valgum which had been caused by the greater power of the external hamstring muscle. The muscle was split and one-half transplanted and given to the internal hamstring and the knock knee did not occur. He called attention to the marked rotary lateral curvature of the whole dorsal spine with convexity to the left, the stronger side, while concavity was toward the side of paralysis of the lower extremity and erector spinal muscles. In clubfoot due to poliomyelitis, the shortening always occurred in the stronger or least paralyzed muscles: by analogy the erector spinæ muscles on this boy's left side, those least paralyzed should be contracted and they were. This drew the entire thorax strongly to the left and downward. To maintain his equilibrium the boy had thrown his head and shoulders to the right by voluntary effort inducing the form of curvature present.

Congenital Dislocation of Hip with Fracture of Shaft of Femur.—Dr. Elliott presented a five-months-old baby sent to him three weeks previously for diagnosis. He found dislocation of left hip and suspected fracture, both of which were confirmed by an X-ray picture. According to the history, birth of the child had been very difficult—the breech had presented and great difficulty had been experienced and instruments used. No difficulty was anticipated in reducing the dislocation; the fracture of the femur, however, complicated the matter. He said he proposed to attempt reduction under an anesthetic and, if any great difficulty presented itself, he would wait till later and do it by the Lorenz non-cutting method.

Congenital Dislocation of the Patella.—Dr. Elliott showed a patient, a young man twenty years old, with dislocation of the right patella. His relatives had told him that it was first noticed two days after his birth; he wore apparatus at various times, but nothing since 1888. The patella slipped into place on extension, but on flexion slid over the external condyle of the femur even if force was applied to hold it; there were two inches of atrophy of the right thigh; a slight degree of knock knee existed. All that the patient complained of was a sense of weakness and uncertainty of the leg. The patient wanted to know if the condition could be remedied without leaving him with a stiff knee. He preferred his present condition of slight disability to a stiff leg.

Case of Spondylolysthesis.—Dr. Taylor presented a man, nineteen years old, whose occupation was loading and unloading furniture. Last December he sought treatment for weakness of his back and occasional pains in the lumbar region at night, after hard work. About three years ago he slipped on the ice and fell heavily on the buttocks. He worked the following day. He experienced no inconvenience for some time, but within a few weeks he noticed a decided projection of the lower part of the spine, which he still has. He thinks it is less now than formerly. Examination revealed a marked projection of the fifth lumbar spine and a deep depression above it. At the bottom of this depression could be felt the fourth lumbar vertebral spine one-half inch in front of its normal position. The patient could bend forward and touch the floor and showed none of the characteristic attitudes of the rigidity of spondylitis. He was strong and able to work. There was no rectal nor bladder symptoms and no lower extremity paralysis.

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ORIGINAL ARTICLES.

THE STUDY OF INTERNAL MEDICINE.[1]

BY WILLIAM OSLER, M.D.

OF BALTIMORE;

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How shall a young man prepare himself to rise in the medical profession to a position in which his brethren lean upon his judgment and rely upon his decisions; and what steps shall he take to become as competent to wrestle with disease as those who have made their names famous in the near past, such men as Hosack, James Jackson, Daniel Drake, Swett, Alonzo Clark, Austin Flint, Henry I. Bowditch and Fordyce Barker?

At the end of the first quarter of this century there will have arisen a new set of consultants, the leaders of thought and the exponents of experience in internal medicine who will have come from the ranks of the college and hospital graduates of to-day. The question that each of these ambitious youths is now asking himself is, "How can I make my work worthy of the reputation I desire?"

Before laying down the general lines of work, that if faithfully followed may bring ultimate success it might be well to remind the anxious youth that the fame of a prominent consultant at sixty is ofttimes accompanied by a treadmill routine of work and a never-ceasing weight of responsibility that makes him look back to the days of his freedom when he could follow his bent untramelled and undisturbed with as much envy as he formerly looked forward to the days of his reputation. Joy comes in the climbing, and while living laborious days, happy in the growing recognition that he is receiving from his colleagues the young physician is realizing the best that the profession has to give.

The first decision to be made is whether or not to go abroad. It is not necessary, but it is very helpful. It gives a physician a broader foundation on which to build and a year or two in the laboratories and clinics of Europe enlarges his capacity for appreciation. To walk the wards of the famous hospitals and put in a few quiet months of study in one of the German universities will store his mind with priceless treasures, and will do more than anything else to free him from the fetters of his own opinions, and help him escape the besetting sin of most young physicians, that intolerant attitude of criticism toward everything outside of his own circle and his own school.

But he need by no means remain narrow-minded, nor lack perspective in his views if he cannot afford the time and money for a year abroad. Some of the ablest men in the profession have found their opportunities in country practice and have built up wide reputations in small towns. But if the Continent is denied him by all means let him seek the opportunities afforded to him in this country and as early as possible get the breadth of view that comes only by observation and comparison of the various methods of accomplishing the same ends. If he lives in a small city or provincial neighborhood let him make a great effort to spend a few weeks each year in Boston, Philadelphia, Chicago, New York or Baltimore, visiting hospitals and clinics and meeting the men in their societies. If he lives in one of the large cities let him by no means feel that he has all that may be acquired at his command. Short vacations spent in visiting different universities and hospitals from the Chesapeake to the St. Lawrence will stimulate to new ideas, and give him that combination of conservatism and independence that comes only with travel.

This is for his youth when the problem of ways and means is all important. But it should be but the incentive to save for further travel and study. At the end of a few years when he needs a rest and change let him invest $600 in a summer semester in Germany working quietly at one of the smaller universities and absorbing the spirit of patient investigation that is the genius of the German mind. Another year let him spend three months in Paris; lay schemes in advance and it is surprising how often the circumstances will fit them.

Poll the successful consulting physicians of this country to-day, and you will find they have been evolved either from general practice or from laboratory and clinical work; many of the most prominent having risen from the ranks of general practitioners. I once heard an eminent consultant rise in wrath because some one had made a remark reflecting upon this class. He declared that no single part of his professional experience had been of such value. But I wish to speak here of the training of men who start with the object of becoming pure physicians. From the vantage ground of more than forty years of hard work, Sir Andrew Clark told me that he had striven ten years for bread, ten years for bread and butter, and twenty years for cakes and ale; and this is really a very good partition of the life of the student of internal medicine, of some at least, since all do not reach the last stage.

But how shall the young man gain even his

[1] In part a résumé of an address on "Internal Medicine as a Vocation," delivered at the New York Academy of Medicine.

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dry bread during the first few years of his professional career? By picking up the crumbs that fall from the practice of the older men who can always put something in the hands of an able youngster, by fees from classes, journal work, private instruction, work from the schools, night work, surplus work in busy seasons, by taking poor or chronic patients that the older man cannot spare time to attend, by keeping office hours for the scanty summer practice of the wealthy physician who is taking his holiday; in short by taking every sort of medical practice that comes to hand, for to see disease is the main thing and a man must be willing to treat disease where he can find it, even though he barely ekes out a living while he is gaining his experience. He should stick closely to the dispensaries, for a first-class reputation may be built up in them that will pay in later days and will bring experience that can be gained in no other way. In the meantime these will afford valuable material for papers for medical societies and for publication in scientific journals. But the young physician should be careful how and where he writes, placing himself under the guidance of his seniors and endeavoring to do a little careful work that is needed in some particular branch, instead of attempting anything that is startlingly original. Byron Bramwell collected most of the material for his Atlas of Medicine while he was an assistant physician in the Royal Infirmary, Edinburgh. Many of the best men in London have served from ten to twenty years in out-patient departments before getting wards. In this country long and faithful service in a hospital dispensary is not necessarily awarded by any position of honor or influence on the hospital staff, but the experience and the reputation and the fraternal relations are invaluable. Once established as a clinical assistant a young man has the material with which to work out his own education.

There are three lines of work which he may follow, all of the most intense interest, all of the greatest value to him—chemistry, physiology, and morbid anatomy. Professional chemists look askance at physiological chemistry, and physiological chemists criticize pretty sharply the work of some clinical chemists, but there can be no doubt of the value to the physician of a very thorough training in methods and ways of organic chemistry. We sorely want in this country, men of this line of training, and the outlook for them has never before been so bright. If at the start he has not had a good chemical training, the other lines should be more closely followed.

Physiology, which for him will mean very largely experimental therapeutics and experimental pathology, will open a wider view and render possible a deeper grasp of the problems of disease. To Traube and men of his stamp, the physiological clinicians, this generation owes much more than to the chemical or postmortem-room group. The training is more difficult to get, and nowadays when physiology is cultivated as a specialty few physicians will graduate into clinical medicine directly from the laboratory. On the other hand, the opportunities for work are now more numerous, and the training which a young fellow gets in a laboratory controlled by a pure physiologist will help to give that scientific impress, which is only enduring when early received. A thorough chemical training and a complete equipment in methods of experimental research are less often met with in the clinical physician than a good practical knowledge of morbid anatomy, and, if our prospective consultant has to limit his work, chemistry and physiology should yield to the claims of the dead-house. In this dry-bread period he should see autopsies daily, if possible. Successful knowledge of the infinite variations of disease can only be obtained by a prolonged study of morbid anatomy. Of special value in training the physician in diagnosis, it also enables him to correct his mistakes, and, if he reads its lessons aright, it may serve to keep him humble.

It would be folly to suppose that every bright and energetic young physician can attain that widest of reputations in which his name becomes familiar to the laity of this continent and to the profession of Europe. That is not the point he is striving for, and should he attain it he would find himself at the mercy of an exacting public with an enormous and irksome practice, and not time to keep abreast of, and much less lead the thought of the times. A professional reputation in even a restricted area affords an excellent income and a satisfactory life-work to those who care to be masters of their own fate and not public slaves. With the present overcrowding of the large cities and the keen competition among physicians the tendency will be more and more to drive the younger men into the small towns which have hitherto sent their best talent to the city and received no adequate return. There are throughout the country hundreds of small hospitals whose clinical opportunities are wasted for lack of younger men who will do with their might whatsoever their hands find to do. These are well worth the consideration of the graduates who are just ready to begin their practice and who realize that to settle in one of the large cities means a desperate struggle for a livelihood. With capital or the promised coöperation of a well-established physician or with a grim bulldog tenacity the young doctor can live through the educational years of his practice and begin to reap the benefits in the forties. But for the young man whose only capital is brains and whose only backing is his belief in his own powers of work the same town affords an opportunity to do work that is just as valuable to the community and to build up a reputation that is of far more help to his professional brethren than the reputations of the far-away great consultants.

To any young man who is just starting the practice of medicine in a town, say of 40,000 to 50,000 inhabitants, and whose ambition it is to work up a consultant practice, I would say "If

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you have brains and staying powers and can avoid entanglements you will probably succeed; but to do so you must make your position by hard work, courteous manners and a close study of human nature. Say to those that ask that you intend to practise medicine only and will not take surgical and obstetrical cases. If you have an opportunity to work in a dispensary or to do any teaching, take the opportunity gladly and give full measure. Your services may be of help in the local hospital. A little blood work or pathological or microscopical examinations, if done voluntarily in a modest grateful spirit, may win you an opening to assist some of the house physicians in his ward work, but in this case be careful that you do not scintillate before the staff in the glory of your recently-acquired knowledge. It will be enough to be in the right occasionally without calling attention to the fact. Get your own little clinical laboratory in order and do not try to impress the physicians who call upon you with your very up-to-date equipment. Remember that they have brought a generation into the world and kept it in health, they have staunch friends and rich patients and are ready to take you into their fraternity if you are civil and modest. Join the city and county societies and never miss a meeting, but keep your mouth shut for a few years, particularly in the discussions; read the journals, but do not discuss the new books before you are grounded in the old ones.

At the end of twenty years, when about forty-five years of age, the man who has worked wisely and well should have a first-class reputation in the profession and a large circle of friends and patients. He will probably have precious little capital in the bank, but a very large accumulation of interest bearing funds in his brain pan. He will have gathered a stock of special knowledge which his friends in the profession appreciate, and they will begin to seek his counsel in doubtful cases and gradually to lean upon him in times of trial. He may awake some day, perhaps quite suddenly, to find that twenty years of quiet work, done for the love of it, has a very solid value.

THE RELATION OF THE STUDENT OF MEDICINE AND THE RECENT GRADUATE TO THE FIELD OF SURGERY.

BY GEORGE RYERSON FOWLER, M.D.,
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SURGEON TO THE METHODIST EPISCOPAL HOSPITAL; SURGEON-IN-CHIEF TO THE BROOKLYN HOSPITAL; SENIOR SURGEON TO THE GERMAN HOSPITAL.

IT is a noticeable fact that the majority of medical students commence rather early in their student career to evince a fondness for surgery. This is partly due to the glamor and intensely dramatic surroundings of the surgical clinic which appeal to the sensibilities and susceptibilities of their yet undeveloped professional minds; partly to the old traditional, and yet in great measure unfounded, want of certainty attending the therapeutic effects of drugs, and the supposed certainty of results following a surgical operation; and finally, to the belief that, in the field of surgery the larger opportunity is offered for the application of the anatomical knowledge the gaining of which forms so large a portion of their work in the early part of the college curriculum.

As the field of study broadens before the student of medicine, and his mind undergoes those evolutionary changes incident to the grasping of new phases of the healing art, the narrow mindedness which, in the beginning prompted him to envy the surgeon the supposed éclat of his surroundings progressively diminishes, until finally, between the admiration excited for the acumen of the skilled medical diagnostician, and the zeal and solicitude essential to the conscientious discharge of the duties of the obstetrician, he wavers, and finally, if he is faithful in his work and earnest in his desire to equip himself for his lifework, he will endeavor to store his mind with every available item of knowledge to be gleaned from lectures, demonstrations, clinics, reading, and dissecting-room and laboratory work.

Should the fondness for the surgical still cling, however, in spite of the awakening of admiration for the great minds which are constantly developing new facts, or advancing fresh theories in the other branches, he will realize that the surgeon, after all, is but an accomplished physician with a trained hand and a readiness to employ mechanical resources in special conditions. The fact becomes more and more impressed upon him that, in the field of surgery, a full and complete knowledge of all of the resources of the medical art are essential to the successful practice of this branch. He no longer looks forth upon a great barren waste with one bright oasis toward which he must make a short cut; but rather he gazes upon broad and richly cultivated fields of thought, each one of which invites him to linger and taste of the inspiration of its well-spring, and enjoy its intellectual repasts.

When he has reached this stage, if the old ambition still prompts him and he feels that he must accomplish the ideal of his early student days, with a full realization of the conditions of the environment of the surgeon he will no longer aim to reach the goal by a straight path with sharply-defined boundaries, but, on the contrary, he will make excursions in each of the fields that opportunity throws in his way, with the well-grounded belief that these will, in time, furnish him with additional incentive for endeavor, supply him with fresh food for thought, and, in addition, increase his equipment for his work as a surgeon.

Upon graduation day he steps in the midst of the workers. The time has come when he must join them. His mind is still fixed upon working in the field of the surgeons. How can he best gain that further knowledge which will

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enable him to range himself side by side with the Astley Coopers and Valentine Motts of his earlier day-dreams? Surely not by casting aside four-fifths of the equipment of which he is already possessed in the endeavor to gain the trained hand and mechanical skill of the surgeon of his boyish imagination. That were indeed a profligate course; he cannot afford to relinquish his hold upon any of the knowledge gained in order to grasp what, after all, may be to him but a shadow. He must hold fast to that which he has gained, for it is his main dependence; the ground-work and foundation of that superstructure he hopes to build. But knowledge, to remain fresh and available, must be put to use, and thus become in time part and parcel of his being. How shall he put it to use in order that it may be firmly engrafted and come to bear fruit?

Two courses are open to him in order that he may make practical use of the knowledge already gained, in order to conserve it for future use by strengthening its all-too-precarious hold in the soil of his mind, by the lessons of experience. He may enter at first the field of general medicine, where opportunities occur here and there, through the diversified character of the work which will come to him, for the application of the surgical portion of the teaching of his student life. But he will soon realize that, although many cases in the field of internal medicine will come to him which will possess no interest from the surgical standpoint, the surgical cases will be few and far between. But of these the greatest rarity will be a case which has no interest from the purely medical standpoint. But art is long and time is fleeting. Exceptionally there may fall in his way, through the rapid building up of a large *clientèle,* opportunities for doing surgical work to the extent of increasing his self-confidence, and if he is wise he will endeavor to supplement this by practising operations upon animals. Later on he will be justified in relinquishing the work in internal medicine that comes to him to others and devoting a larger share of his time to the cultivation of the surgical branch. But the transition must be gradual; advances cannot be made by leaps and bounds. He must increase his store of knowledge in every branch of professional work while at the same time he is training his hand and cultivating mechanical skill.

The mere fact that he turns away medical work in order to pay more attention to his surgical cases will cause the latter class of work to gravitate to him, and this circumstance will also increase the confidence of his fellow practitioners in his earnestness as well as honesty of purpose. This confidence will prove, in the long run, the most important factor in his success as a surgeon, and will naturally result in a demand for his services as a consultant, as well as his selection for a position upon the surgical staff of some hospital. While the attainment of the latter will be a most desirable incident of his life, for by means of it he will find larger opportunities for the exercise of his surgical skill, yet he will do well to remember that he should only seek such promotion by deserving it; other than this the position should always seek the man.

While financial considerations may compel him to follow the course above outlined, he may well feel that it is not the best. The other course is to enter the competitive examination for an interneship in some large hospital, and there win his way to a field in which he may work with the greatest possible advantage from any standpoint. A hospital in which he may serve both as a medical and surgical interne will be found to offer him the best opportunities. Here, while he will be thrown to a certain extent upon his own resources of knowledge, at the same time he will be brought in contact with men of large experience, both in the medical and surgical branches of the profession. The medical service will serve the same purpose as an experience in private practice, with the additional advantage that this experience will have been gained in a much shorter space of time, and under proper guidance, thus greatly enhancing its value. At the same time he will be brought into contact with the surgical work of the hospital, if only in a minor capacity. In any event he may be an onlooker in relation to surgical matters while serving as a medical interne, and even this has its advantages. It is probable, however, that he will take a more or less active part in the emergency surgical work, at least. In hospitals in which the professional organization is such that it is intended that the internes should familiarize themselves with the hospital work by such rotation in service as shall give them a subordinate position in first one service and then the other, becoming house physician before becoming house surgeon, the best advantages are gained for the internes themselves.

When the position of house surgeon has been gained the opportunity of the man, who has surgical aspirations and who has endeavored in every way to live up to the preparatory requirements, has arrived, and he will lose no chance of availing himself of it to the utmost. Here he becomes one of the direct assistants and co-workers of the masters in the art in which he is endeavoring to perfect himself. By his quickness in adapting himself to the exigencies in the operating-room he will inspire confidence on the part of his chief, and by this and his intelligent care of the cases in the surgical wards he will be entrusted with a share of operative work and the more or less complete control of the after-treatment. This will prove a most valuable aid to him, not only in the experience actually gained, but in the self-confidence inspired.

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A trained hand will be developed in such actual manipulative work as will be assigned to him, from the holding of a retractor and sponging to the clamping and tying of vessels. Mechanical skill comes with the application of fixed dressings and apparatus. The permission now and then from his chief to operate upon emergency cases, the number of these depending upon the confidence inspired by his behavior while assisting, all go a long way toward making him a trustworthy surgeon.

With the termination of his hospital service his chief may have become so impressed with his availability as an assistant as to place him in the way of becoming a regular assistant at the hospital clinic. If the work in the hospital has been such as to give opportunities for acquiring practical knowledge in the bacteriological and pathological laboratory, so much the better. If not he should seek to supply this deficiency, for he has now come to the point when he must put on the finishing touches, so to speak, of a preparation which, while it does not make a surgeon of him, is designed to teach him how he may become a surgeon. He will now spend a year in the practical work of some pathological institute, either at home or abroad. If he has a taste for foreign languages, and has already acquired some knowledge of German or French, he may spend this time profitably either in Berlin or Vienna, or in Paris. The constantly increasing facilities for following up the work in our own country, however, are such as to make it extremely profitable for him to pursue his studies here, particularly if his knowledge of languages is limited to English. Or, if he is desirous of combining his studies in this line with a residence abroad for a time, he will find excellent opportunities in London. If he has followed up his work as an interne closely he will have felt the need of more knowledge of surgical pathology and bacteriology, and will enter upon this portion of his work with increased zeal and enthusiasm.

The final culmination of his efforts to prepare himself for surgical work will be the securing of a place in the service of a hospital surgeon as an assistant, in which position a decade may be spent with profit. As time goes on he will be entrusted more and more with important surgical work. In the very nature of things vacancies must occur upon the surgical staff of the hospital with which his chief is connected, in which case he will have made himself so necessary to the work of the institution that his promotion will follow as a matter of course. During this decade of his life no opportunity must be lost of gaining knowledge of most approved methods, not only as these develop in the work as done by his chief, but by a close study of current surgical literature, and watching, as opportunity offers, the work of other surgeons. An occasional visit to the surgical clinics of the medical centers of this country, as well as those abroad, forms a very profitable and at the same time enjoyable way of taking short vacations to the aspirant for surgical honors.

Above all things he should not fail to form habits of systematizing his knowledge, and of practising self-criticism. A faithful record of work done and a judicious selection of this for publication are of inestimable value. This will bring him work to do on his own account, and at the same time enrich the literature of his profession. While some practice will come to him through his chief, more will come from other sources. Likewise a recognition of the character of his work from outside the institution in which he works with his chief may, and frequently does lead to a consideration of his eligibility for appointment in some other hospital as attending surgeon. He will lose nothing, however, but on the contrary will be largely the gainer by a consistent loyalty to the chief who recognized his ambition and made it possible for him to become a surgeon.

At last he is a worker in the field of surgery. He may or may not become the originator of difficult or brilliant surgical procedures, but if he attains to good judgment, as based upon a cultivation of powers of observation and proper discrimination, combined with the experience which will certainly come to him, he will be trusted by his colleagues. When the profession trusts him, the public will have confidence in him, and when these have been reached he will have become a surgeon.

THE MEDICAL MAN IN THE NAVY.

BY W. K. VAN REYPEN, M.D.,
SURGEON-GENERAL OF THE UNITED STATES NAVY.

THE Medical Corps of the Navy is recruited directly from civil life. Any man who is a citizen of the United States and between twenty-one and thirty years of age can obtain the permit to appear before a Naval Medical Examining Board by making application in the prescribed form and submitting at the same time suitable certificates from persons of good repute, testifying from personal knowledge as to his good habits, moral character, and citizenship.

Recognizing the responsibilities of the men chosen to safeguard the health of the personnel of this rapidly growing and very important branch of the public service, and the necessity for ability in the treatment of disease and injury, the Government has wisely made the test for admission to this Corps one simply of merit, eliminating political and other influences and conferring the privileges of a commission in the Medical Corps upon any citizen of the United States within the limitations of age specified and having those requirements neces-

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sary for the successful practice of the medical profession under the flag afloat.

With this end in view, the Navy Department has adopted simple methods that all proper candidates, from whatever part of our country, may easily obtain the desired examination at any time and be impartially considered by a board of officers composed of members of the Corps desirous of affording every opportunity for the exhibition of those qualities of body and mind which are necessary for a useful naval life. For this purpose two Examining Boards are kept constantly organized—one at the Naval Laboratory and Department of Instruction, Brooklyn, N. Y., and the other at the Naval Hospital, Mare Island, California. Both of these boards conduct the examination in accordance with instructions issued by the Surgeon-General of the Navy, who also willingly sends to any person making application an official circular containing such information as may be necessary for his guidance.

Each Board is composed of three medical men who, while impressed with the importance of the duty assigned them and required under oath, to report on the physical, mental, moral and professional qualifications of each candidate, recognize the defects in all systems of examination for the proper appraisement of mental value and, therefore, endeavor to conduct the candidate in a simple and practical way over ground that should be very familiar to him if he has been a reasonably honest student of medicine and has exercised judgment and discretion in his work. Indeed the Board does not object to being led by the candidate to a certain extent in some directions in which the natural bent of his mind may have carried him, for it is the individual who is being appraised rather than the system of examination.

The order of examination is as follows: (1) Physical. (2) Written,, (3) Oral. (4) Clinical. (5) Practical.

1. The physical examination is necessarily thorough, for the candidate is seeking a position which he usually desires to hold for life. The question involved is, however, not simply one relating to probable length of life, but more especially to continued physical ability to perform duty, for an officer is paid when sick and, when permanently incapitated for active naval service on account of physical disability, has the privileges of the Retired List, where, if his disability has been an incident of service, or his retirement is on account of age, he receives as much as seventy-five per cent. of the pay at sea. This is a very important consideration in connection with the subject of pay in the Navy, for, while the following table designates the various grades of the Medical Corps and the pay received in each grade, it should be regarded in relation to the provisions for retirement for disability, or for age, 62 being the limit of age on the Active List.

PAY TABLE.

	At Sea.	On Shore.	Allowances per Annum.[2]
Assistant Surgeons:			
Rank of Lieutenant (junior grade)[1].	$1,650.00	$1,402.50	$288.00
Passed Assistant Surgeons:			
Rank of Lieutenant (junior grade)..	1,650.00	1,402.50	288.00
After five years in the Service	1,800.00	1,530.00	288.00
Rank of Lieutenant.....	1,980.00	1,683.00	432.00
After five years in the Service....	2,100.00	1,836.00	432.00
After ten years in the Service.....	2,340.00	1,989.00	432.00
Surgeons:			
Rank of Lieutenant—			
After ten years in the Service.....	2,340.00	1,989.00	432.00
After fifteen years in the Service.	2,520.00	2,142.00	432.00
Rank of Lieutenant-Commander—			
After ten years in the Service.....	3,250.00	2,762.50	576.00
After fifteen years in the Service.	3,500.00	2,975.00	576.00
Medical Inspectors:			
Rank of Commander—			
After fifteen years in the Service.	4,000.00	3,400.00	576.00
Medical Directors:			
Rank of Captain—			
After fifteen years in the Service.	4,500.00	3,825.00	720.00
Surgeon-General:			
Rank of Rear-Admiral.....	5,500.00	5,500.00	720.00

2. In the written examination the candidate is required to address a letter to the Board of Examiners, stating the date and place of his birth; the school or college at which he received his general education; the medical school or schools at which he received instruction, and, if an alumnus, the date of his graduation, and the time when he commenced the study of medicine, also the titles of the textbooks studied; the opportunities he has had in engaging in the practice of his profession; and whether he has or has not been a resident physician or interne in a hospital. To this letter the candidate appends his name in full, postoffice address, and his local address at the time of the examination.

He next prepares a thesis or short essay (without reference to notes or books) upon some professional subject indicated by the Board, and then makes written answers to questions on the usual professional subjects, including hygiene and quarantine, and on the usual general educational branches.

3. The oral examination is upon general educational subjects and the usual professional branches, including hygiene and microscopy.

4. The clinical examination of patients is made at a naval hospital and includes the use of the microscope, thermometer, laryngoscope, ophthalmoscope, and other aids to physical diagnosis. A written report is then made on one or more cases.

5. The practical examination comprises surgical operations on the cadaver, the applica-

[1] Designations of rank in the Navy differ from those employed in the Army. Lieutenant (junior grade), Lieutenant, Lieutenant-Commander, Commander, Captain, and Rear-Admiral, correspond respectively with the following ranks in the Army: First Lieutenant, Captain, Major, Lieutenant-Colonel, Colonel, and Brigadier-General.

[2] Only when quarters are not furnished by the Government. There is also an allowance of eight cents a mile to officers traveling under orders.

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tion of splints, bandages, and surgical dressings, the use of the microscope (for clinical purposes and the recognition of pathological and other specimens), and chemical and pharmaceutical manipulations.

With reference to the amount of general education considered necessary by the Board it should be considered that all naval officers are representatives of their country in other lands, where a welcome is extended to them by representative people. The social life of a Medical Officer of the Navy is also regarded in relation to members of the other naval corps who are assembled on each ship and station and with whom the medical man in the Navy is associated in various duties and necessarily more or less intimately in every-day life. Apart, therefore, from the usual consideration that a medical education should rest upon the foundation of a fair general education, it is apparent that a medical officer of the Navy should for many other reasons be a well-educated physician.

The Board recognizes the necessity for this requirement, but, avoiding all extremes, seeks simply to maintain such a standard in the Corps that its members may be regarded worthy of attention not only professionally, but also from the general educational point of view, considering that in naval as in civil life both are of mutual assistance and more or less necessary for a reasonable success. The examination in that direction is, therefore, carried only sufficiently far to determine whether the candidate could maintain the general position advisable for a successful life as a medical man in the Navy. Of course, however, if the applicant seeks credit for advanced work on general educational subjects, opportunity is afforded him to obtain the additional credit.

The application for permission to appear before the Board must be in the handwriting of the applicant and addressed to the Honorable Secretary of the Navy. The form of application is as follows:

.....

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Sir: I request permission to be examined for an appointment as Assistant Surgeon in the United States Navy.

I was born at ....., and was ..... years of age on the .....day of ....., 190, and am a citizen of the United States, residing in ....., county of ....., in the State of.....

I enclose herewith certificates as to moral character, habits, and citizenship.

Very respectfully,

.....

The Honorable SECRETARY OF THE NAVY,
Navy Department, Washington, D. C.

When in reply to this application the candidate receives a permit he is expected to notify the President of the Board, before which he is authorized to appear, of that fact and request to have a date fixed for the examination. He is also expected to present to the Board testimonials of educational and professional fitness. No allowance is made for the expenses of persons undergoing examination, which, if uninterrupted, is usually completed within ten days. A candidate may withdraw at any period of the examination, with the consent of the Board, and may, at a future time, present himself for reexamination.

The examination is not conducted in classes though several candidates may be before the Board at the same time. It is not therefore usually competitive in any sense but when two or more applicants happen to be awaiting appointment at the same time the commissions are conferred in the order of merit reported by the Board. After a successful examination appointment as Assistant Surgeon is made without delay for, though the membership of the Corps is limited by law and no such appointments can be made except to fill vacancies, there are as a matter of fact always some vacancies. This is especially prominent at this time, for the number of members allowed the Corps has been recently increased by act of Congress, owing to the rapid increase of the Navy and consequently the growing importance of this branch of the service. As a result there are now fifteen vacancies in the Medical Corps which with recent legislation favorable to the Corps and the advantages incident to a commission in the service afford opportunities for successful professional careers.

The order of appointment is of considerable consequence in a Corps in which the number in most of the grades is limited, with vacancies in those grades filled in the order of seniority after the physical and professional examination required by law. It is, therefore, of value to the applicant for admission to the Corps to appear before the Board at the earliest practicable date, as, if successful, he thus secures a higher place on the list, becoming senior to those subsequently appointed.

While promotion from one grade to another is, as a rule, to fill a vacancy in the upper grade caused by death, or retirement for age or disability, there is a very important exception in the entrance grade, that of Assistant Surgeon, from which promotion, after successful examination, is assured at the end of three years, the Assistant Surgeon becoming a Passed Assistant Surgeon.

The rank of an assistant surgeon is that of lieutenant (junior grade)—a naval rank corresponding with first lieutenant in the Army. This rank conferred upon the medical man in the Navy at the start is the result of recent legislation and represents a most important advance, making the Corps much more attractive and desirable, as the increase in rank carries with it an increase in pay and also removes the old objections to the life of an assistant surgeon which caused more or less discontent and acted as a deterrent to some in civil life who would otherwise have eagerly sought admission to the Corps.

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The lowest commissioned rank in the Navy is that of ensign, corresponding with that of second lieutenant in the Army. This is the rank which an officer in the Line attains after six years' service—four years at the Naval Academy and two years at sea. Formerly an assistant surgeon entered with that rank and thus by regulation was placed in the junior officers' quarters. Now, entering with the higher rank, he becomes at once a senior officer—a wardroom officer with all the privileges incident thereto, including quarters to himself. This makes possible the privacy and comforts so valuable and desirable in life while afloat, and places the medical officer from the commencement of his career in a position consonant with his age, habits of thought, and responsibilities.

The old days have passed and there is a new era in naval medical life at a time when there is a new Navy, increasing each year in men and ships. No branch of the public service of our country has a more glorious and consistent history than the Navy and there is no branch which confers as a heritage greater distinction upon its members. The only way in which a future as great or greater can be secured is by as great or greater merit, and that this should be the test for admission to the Medical Corps should be regarded with favor by all who consider themselves worthy, as it ensures a Corps that honors and provides an incentive to achieve distinction within it; for, in the naval community as in others there are individuals differing in standing and some who make more of professional and other opportunities than others.

The conditions of naval life include travel at home and abroad, with a period at sea and a period on shore in one's own country, with duty in the various naval hospitals or at the different shore stations. When afloat one becomes familiar with foreign countries and diverse peoples, and acquires in time that wide education generally regarded as incident to travel. Steam has shortened the time between ports and thus relieved naval life of much of the monotony of former days. The opportunities have increased for a personal acquaintance with the diseases of different climates and the methods employed in medicine and surgery by medical men of different nationalities. In military surgery there have been at times opportunities for work apart from naval service, as when the medical officers of ships of various nations established a temporary hospital on shore to care for the wounded of both contending parties in a country the subject of revolution.

While at first the change from civil to naval life may be somewhat confusing, in time there is a recognition that it has brought its own peculiar problems from a professional point of view which require special thought and training. The routine of the naval medical officer's life includes not only the treatment of disease and injury, at times under unusual circumstances and without professional aid or advice, but also involves questions of the care of wounded in battle with transportation on board ships differing in construction; unusual hygienic problems of great importance; a thorough acquaintance with the state of health in the selection of recruits; and a knowledge of the seafaring mind and conditions of life at sea in connection with their relation to disease and perhaps to malingering in its various degrees.

These are in a broad way some of the various lines of medical work, the ever-changing conditions, the ever-changing surroundings at sea, different ports and different cities with varying influences stimulating medical observation primarily with a view to the care of men under supervision; for a ship of the Navy is a floating fort crowded with men, and the medical mind in its own department has opportunities for a wide range in human experiences and no small share in the responsibilities of life.

And so in view of all the circumstances it seems very just and proper that the commission signed and conferred by the President of the United States reads in part as follows:

"Know Ye, that reposing special Trust and Confidence in the Patriotism, Valour, Fidelity and Abilities of ....., I have nominated, and by and with the advice and consent of the Senate, do appoint him an Assistant Surgeon in the Navy with the rank of Lieutenant Junior Grade, from the ..... day of .....190 , in the service of the United States."

THE MUNICIPAL HEALTH DEPARTMENT SYSTEM, AND MORE ESPECIALLY IN REFERENCE TO ITS ADVANTAGES AND DISADVANTAGES AS AN OPENING FOR THE YOUNG MEDICAL GRADUATE.[1]

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MODERN sanitary science and preventive medicine are slowly, but surely reducing not only the mortality from, but also the prevalence of, disease. This is a fact which cannot be denied; it is proven by the official records of vital statistics, and is apparently evidenced no less by the waning private practice of physicians. In former times four-fifths of all deaths and a corresponding number of diseases were due to preventable causes; but

[1] In the compilation of this article I have made liberal use of the excellent addresses by H. M. Biggs, M.D., on "Preventive Medicine in the City of New York" (1897), and "Sanitary Science, the Medical Profession, and the Public" (1898), as well as of the official reports of the New York City Department of Health.

now, owing to the general adoption of improved methods of hygiene, both public and personal, the death-rate and, at the same time, the frequency of sickness have been reduced to one-quarter of what they once were, and although much remains to be done in this direction, there is little doubt but that in the present generation we shall see a still further reduction of distinctly preventable diseases of at least one-third more.

The consideration of this fact, together with another equally as manifest, namely that of increasing competition in the art of healing, not only within the ranks of the regular medical profession along with its adjuncts the hospitals, dispensaries and clinics, but also outside the profession with the quacks and charlatans, Divine-Healers, Faith-Healers, Christian-Scientists, Osteopaths, and other fashionable sects of that ilk, who, although not more numerous to-day perhaps than in times past, still count their votaries by the thousands: I say that the contemplation of these indisputable facts may well make us pause, old as well as young medical graduates, and ask wonderingly, what are the chances of success in the practice of legitimate medicine?

Of course, in writing of the "chances of success," it is not intended to imply the accumulation of wealth, for it stands to reason, now as ever, that no man is fitted for the study of medicine who expects to grow rich through its practice. Such a one is by nature a merchant and should go into trade; and luckily, both for the good of the calling in general and for that of practitioners individually, the mercenary spirit is comparatively rare in the medical profession, inasmuch as this class of men usually find out very soon after graduation that medicine, like virtue, often is its own reward, and look for other and more lucrative employment. Neither is it meant to include physicians possessed of private incomes who are independent of their profession, and who while "waiting for a practice" may advantageously employ their unlimited spare time in attending hospitals and clinics at home or abroad, and in the acquisition of skill and experience, in the various specialties of medicine and surgery, although they receive no remuneration for their labors. Nor is reference made to the country doctor, who prefers to "lead the even tenor of his way" (thus wisely choosing perhaps) as a practitioner in the rural districts, where, though the financial prospects may not be brilliant, better opportunities are not infrequently afforded for an immediate return for medical service.

But granted that our young medical graduate is in the pursuit merely of a modest livelihood, that he is possessed of the suitable character and ability, the requisite energy, perserverance, and, above all, love for his profession, to enable him to bear the brunts and buffets of its early disappointments and misfortunes; and that he is poor, but ambitious of honor and the prizes which are to be worn only amid "the madding crowd's ignoble strife"; what available opening is there for him in a large city?

It must be confessed at the outset that the picture presents no very attractive features in the foreground, although the distance hidden from view conceals, for all we know, the poet's land of Eldorado, and some who seek may find it. But to speak unmetaphorically, there is one line of work which may offer a possible opening to the young medical graduate, or to some of them at least, and as such I would draw favorable attention to it. I do this, moreover, with the greater confidence, because of my own experience, and because it is a line of work which is as yet comparatively new, and therefore not quite so overstocked as many other branches of medicine, and last but not least, on account of its emoluments, which though small are reasonably sure: I mean the municipal health department system and the study of sanitary science.

What is the health department system, and what are its status and its duties? These questions are often asked and imperfectly answered, and hence a false idea is apt to be conceived of the true nature of the work with which Health Departments have to deal.

The modern health department system as it now exists in our large cities—there is no National health department in this country, although many States have their departments of health—is a centralized, autocratic organization under municipal control, designed for the care of the public health. The word *autocratic*, and the acts which it involves, would be inimical, seemingly, to our principles as citizens of a democracy. Nevertheless in this Republic of ours the growing tendency of the times is evidently toward centralization and combination of wealth and power. Witness, not only the health department system, but the many other systems and syndicates, the giant trusts and monopolies in trade, political bossism, etc. A few of us may declaim against this tendency as denoting an infringement of the rights of the individual, a restriction of personal freedom, a destruction of competition, and so on; but, however, this may be in the main, the concentration of authority when it is plainly designed for the common good, as in matters pertaining to the public health, is not only accepted but welcomed by the people, despite its exercise of arbitrary power, on account of its certainly beneficient results, and this—as Dr. Biggs suggests in his Address on Public Medicine, delivered at the Sixty-fifth Annual Meeting of the British Medical Association—simply because our Government is democratic. *Pro bono publico.*

In like manner, not only here but everywhere, all broad-minded men, legislators and statesmen who have their country's welfare

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and progress at heart, favor and encourage the public health department system. To quote the memorable words of Disraeli, England's great prime-minister, during a discussion in the British Parliament of a bill for the protection of the public health: "The public health is the foundation on which repose the happiness of the people and the power of a country. The care of the public health is the first duty of a statesman."

Nor are physicians on the whole really opposed to the health department system, although some may consider it to be against their interests to promote an organization which aims to prevent disease. Dr. Oliver Wendell Holmes once humorously remarked that "Physicians naturally desire for their patients great longevity with frequent illness"; and it has been said that "no medical practitioners, whose livelihood depends upon sickness, are likely to exert themselves in exterminating it." But the history of sanitary science, which is indissolubly connected with that of medicine, clearly shows this expression of opinion to be a libel on the profession; for the greatest achievements of hygiene or preventive medicine are the result almost entirely of the work, investigations and discoveries of medical men, and no class or profession has done so much for the preservation and prolongation of human life as the medical profession.

Let us look for a moment at the scope and character of the work, as shown by the functions performed by sanitary authorities. In its broadest interpretation, everything which is detrimental to health or dangerous to life may appropriately be regarded as coming within their province; and even those things which improperly or unnecessarily interfere with the comfort and enjoyment of life may also be rightly said to be the subject of their consideration and action. The duties of sanitary authorities, therefore, are far-reaching and complex in their nature. Primarily, they must insure to the community and to each individual an abundant supply of pure air, light and water, and wholesome food. The preservation of the purity of the air and the furnishing of an abundance of light and ventilation, involves comprehensive measures relating to the character of the habitations, their construction, their cleanliness and the cleanliness of their surroundings; the provision of efficient plumbing; good sewerage; sufficient air-space, and the prevention of overcrowding; protection against noxious vapors or odors arising from offensive trades, slaughter-houses, gas-works, decomposing animal and vegetable matter, and the purity of the atmosphere from suspended solid particles. It is also incumbent upon the sanitary authorities to prevent adulteration and to guarantee the wholesomeness of food—meat, milk, fish, fruit, and general articles of consumption. The purity and quality of various drinks must be inquired into, and the relative food values of different products determined. Beside special inspections relating to plumbing, ventilation, overcrowding, inspections of food, etc., there are also general inspections relating to street excavations, wells, privies, stables, the conditions surrounding the removal of garbage and dead animals, the conditions in public places and places of assembly, the manner and place of burial, etc. Another special feature of the work relates to the restriction and prevention of the infectious diseases, the inspection of reported cases, and the quarantine of patients affected with contagious affections and their removal to hospital when required; and the disinfection of infected premises, clothing, etc.

It is evident, from this brief survey of the functions of sanitary authorities, not only that the scope of the work is broad, but that the knowledge requisite for the discharge of the duties of medical health officer is comprehensive and for the most part totally unlike that required for medical practitioners. How is this knowledge to be acquired? Unfortunately there are as yet no schools in this country for the education and training of men in matters pertaining to public health. In consequence of this want, the necessary knowledge can only be obtained at present by actual service under the municipal health department system of one of our large cities.

As an illustration of this system, how it is organized, how appointments are made, what salaries are paid, and what advantages may be gained through the position of medical health officer, it may be interesting and instructive to describe shortly the organization of the New York City Department of Health, which may serve as a type of the best municipal health department systems in the United States.

The Board of Health of New York City (the Greater City of New York since 1898) is now composed of five members, namely, the President, who is the chief executive officer; two Commissioners of Health, who must be physicians (these three being appointed by the Mayor of the City), and two *ex-officio* members—the Health Officer of the Port of New York (who is a State officer nominated by the Governor) and the Police Commissioner of New York City (the latter being added to bring the Police Department and the Department of Health in closer relation to one another). The Board of Health has jurisdiction over the entire city of Greater New York, as it at present exists, with a population of over three and one-quarter million inhabitants. All of the administrative and executive work of the Department is concentrated at its main offices at 969 Sixth Avenue, and is carried on under the immediate direction of the chiefs of the various divisions into which the Department is divided.

The Sanitary Bureau is under the charge of the Sanitary Superintendent, who, as its chief

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executive officer, has to do with the general supervision of the sanitary work of the Department, the enforcement of the provisions of the several sections of the Sanitary Code, and the laws and ordinances relating to tenement and lodging-houses, and generally the laws relating to the health of the city. This Bureau is subdivided as follows:

First Division, general and special sanitary inspection.

Second Division, contagious diseases and medical sanitary inspection.

Third Division, food inspection, offensive trades, etc.

Fourth Division, pathology and bacteriology.

Fifth Division, medical school inspection.

Sixth Division, marine inspection.

The Bureau of Records is in charge of the Registrar of Records and is entrusted with the registration of births, marriages, and deaths, the granting of burial permits, the study of topographical causes of disease and circumstances of unusual deaths, and, incidentally, the classification and filling of vital statistics.

There are also four hospitals under the control of the Board of Health, namely, the Willard Parker Hospital, the Reception Hospital, the Riverside Hospital (North Brother Island), and the Kingston Avenue Hospital (Brooklyn), which are devoted to the reception and care of those suffering from contagious diseases.

Each of the Boroughs of New York, Brooklyn, Queens, and Richmond, has its special health officers who act as deputies or assistants of the respective chiefs of the divisions, and each of the divisions and subdivisions of the Health Department has also its special employees, inspectors, etc., amounting in all (including hospital employees) to nearly eight hundred persons. Of these over three hundred are physicians. The medical corps, in which we are principally interested here, include the district medical inspectors, the district and special vaccinators, the inspectors for the administration of antitoxin, the diagnosticians, the bacteriologists, the medical school inspectors, and several special inspectors of disinfection of lodging-houses and public institutions. These various corps, with the exception of the summer corps and the school inspectors, are permanent and are on duty throughout the year. The medical school inspectors are on duty through the school year, and the work of the summer corps is limited to July and August.

Appointments to the New York City Department of Health being governed by the Civil Service rules, none of the positions above mentioned is obtainable except by competitive examination on the various subjects to which the work relates. Whenever the list of eligible candidates runs out, or in the judgment of the Board additional help is needed in the Department, a notice is published in the City Record, the official municipal organ, to the effect that a competitive examination will be held at the appointed time, to fill the vacancy or office advertised. Candidates for examination are then expected to make regular application through the Director of Civil Service, from whom blanks may be obtained for the purpose, and upon which are to be stated personal history, qualifications, etc., of the applicant, vouched for by at least three well-known citizens of New York, one or more of whom should be physicians in good standing. The examinations are strictly competitive, that is to say, only those who gain the required percentage of marks and pass at the head of the lists are eligible for appointment in the order of their proficiency. At one time, I believe, the Board of Health as the appointing power reserved the right to select from a certain number of those who on examination stood highest on the lists the ones whom they considered most fitted to fill the office; but I am unable to say whether this is still done. So far as I know, exception to the rule is now made only in favor of veterans of the army or navy, who, when otherwise eligible, have the preference of appointment.

The salaries paid to medical health officers, not including the chiefs of divisions, vary in amount from $1,800 to $900 per annum, the average being about $1,200 a year. The medical school inspectors receive $30 a month during the school term, and the summer corps of inspectors are paid $100 a month for two or three months at midsummer. Regularly on the first day of the month, and as long as the duties required are properly and punctually performed, every official of the Health Department receives a check for the amount of salary due, upon signature of his or her name on the pay-roll.

With regard to the character of the work required of medical health officers, it undoubtedly necessitates expert knowledge, which, in this country at least, cannot be acquired outside of the service of one of our large municipal health department systems. But with ordinary exercise of energy and assiduity in its daily performance, it is not difficult to gain the requisite knowledge in such a well organized system as that of the New York City Department of Health.

The time which each medical officer is expected to give to the work varies, of course, with its character and the orders of his chief of division; but every one must report for duty daily except Sundays and holidays, and there is a vacation of two weeks in the year. Certain officers, like the diagnosticians and bacteriologists, are assigned for special duty, alternately, on Sundays and holidays; and two diagnosticians are on duty in the main offices of the Department day and night. No absences are allowed without special permis-

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sion of the Board through the chiefs of divisions, and in case of sickness a report must be sent at once to headquarters, a doctor's certificate being furnished later.

Inasmuch as the remuneration received for the work of the medical health officer is inadequate to secure the services of the highest class of physicians and expect them to devote all their time and labor to the Department, these officers are granted the privilege of carrying on a private practice in the city, or engaging in other professional occupation, in so far as this does not interfere with their duties as health department officials. There are, moreover, certain other compensatory advantages to be gained in connection with special kinds of work, and more particularly that of bacteriology, which affords a fruitful field for experience and investigation to those who are employed as bacteriologists and pathologists in the Health Department.

Until bacteriology shed the light of its discoveries on the origin and nature of infectious diseases, public hygiene or preventive medicine was but an incomplete science, and sanitary authorities were often compelled to blunder aimlessly in the dark. It was a new and important departure, therefore, from the old methods of Health Department work which was instituted in New York City (1892) at the suggestion and under the direction of Dr. Hermann M. Biggs, pathologist and director of the Bacteriological Laboratories, and for which he deserves the highest possible credit, namely, the establishment of a Bacteriological Laboratory as part of the Municipal Health Department system, this being the first laboratory of the kind ever established anywhere under municipal control. It was originally designed to afford facilities for the bacteriological diagnosis of Asiatic cholera, then threatening to invade the city, and for the investigation of questions relating to disinfection and disinfectants. A very short time, however, after the opening of the laboratory, the scope of the work was extended and facilities for the free bacteriological diagnosis of diphtheria were offered to the physicians of New York. The work in diphtheria was soon followed by the perfecting of arrangements for the free bacteriological examination of sputum for the diagnosis of cases of suspected tuberculosis among residents of the city. Then in 1894 investigations in connection with the production of diphtheria antitoxin were begun, and the municipal authorities having made a special annual appropriation (antitoxin fund) for the prosecution of this work, the Health Department undertook the manufacture of antitoxin in its own laboratories. The use of this product was commenced in 1895.

A portion of the diphtheria antitoxin was freely supplied to all public institutions in the city; antitoxin was also furnished free to physicians for use among persons too poor to pay for the remedy; and antitoxin was administered free on the request of the attending physician to any resident of New York City by a specially detailed staff of medical inspectors. The surplus antitoxin remaining after the public was supplied in this way was then sold, as authorized by a special act of legislature, "the proceeds to be devoted to the manufacture of diphtheria antitoxin and other antitoxins." The special fund thus accumulated made possible the establishment and maintenance of a "Hospital and Research Laboratory," devoted to the production, not only of diphtheria antitoxin, but of other bacteriological products, and to general experimental investigations in relation to the infectious diseases.

The work of this laboratory now includes the production of tetanus antitoxin, antistreptococcus serum, mallein and tuberculin (used by the Department in the diagnosis of glanders and tuberculosis, respectively, in animals), and numerous experimental researches regarding diphtheria, pneumonia, typhoid fever, tuberculosis, influenza, smallpox, etc. The administration of Pasteur's treatment for the prevention of rabies is also now being given at the Hospital and Research Laboratory free of charge to residents of New York City. There is a special laboratory and stable devoted to the manufacture of bovine vaccine virus, investigations undertaken in this laboratory having resulted in the production of glycerinated vaccine pulp of great activity and durability. Moreover a new laboratory is at present in course of construction for the special investigation of the bubonic plague. These laboratories are situated at the foot of East Sixteenth Street near the Willard Parker Hospital.

The routine bacteriological work is carried on in the "Diagnosis Laboratory" in the main office building of the Health Department (969 Sixth Avenue); and this work also includes, besides the examination of cultures and of sputum, respectively, in cases of suspected diphtheria and tuberculosis, the examination of blood and serum by the Widal test in cases of suspected typhoid fever. These routine examinations for diagnosis now amount to very many thousands in number in the course of the year. They serve the double purpose of assisting physicians in the city to arrive at positive conclusions in their clinical diagnoses, and of determining the action of the public health authorities with regard to the quarantine and disinfection of certain diseases.

Furthermore, it may be said, that the conspicuous reduction in the mortality of such wide-spread and fatal scourges as diphtheria and tuberculosis (the former of which has been reduced to about one-half of what it previously was) in New York City, has been largely due to the work done in the Bacteriological Laboratories.

It will be seen, from the foregoing description of the organization and work of the New

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York City Department of Health, that the municipal health department system, as here exemplified, offers a wide and profitable field for cultivation, not only in all matters pertaining to public health, but more especially in certain lines of expert knowledge and scientific investigation. This system, however, of which New York may rightly be regarded as the pioneer and model, is not confined to this city; on the contrary, it now finds its analogues in many other cities of this and other countries, although there are perhaps few, if any, bacteriological laboratories anywhere so thoroughly equipped for Health Department work as those of New York City.

But so far we have spoken only of the possible advantages to be gained in the service of the Municipal Health Department system. Are there no disadvantages connected with it? Yes, there are, both in the position itself of medical health officer, and in the difficulty of getting the appointment; and to some these drawbacks and difficulties may appear to render the attempt to obtain or occupy a place as medical health officer as prohibitory, if not suicidal.

In the first place a medical officer of health is liable to become, although not necessarily so, and unpopular personage, to prevent which it may require on his part the exhibition of great tact and discrimination, not to speak of equanimity, in the discharge of his duties. This does not refer so much to the public in general, who at the worst may regard him perhaps as one degree removed above a police officer, as to his colleagues in the profession, some of whom will look upon him possibly as a usurper and dictator in medical matters, about which he cannot, in their opinion, know as much as they do, as experienced practitioners. This fact, together with the time he is expected to give to the Department, although he has several hours a day to devote to his own affairs may tend to detract from rather than to add to, his chances of success in private practice. Nor, for the same reason, does his connection with the Health Department bring him any positive advancement in the social scale of life. Then, too, as a matter of course, no man who is a public servant can expect to be his own master entirely, especially if he hold only a subordinate position. He is under orders of his superior officer and must conform to certain rules of discipline, being required not only to perform his routine work properly and punctually, but to be ready at a moment's notice and on any emergency by day or night, to drop all private business, however urgent or important, to obey duty's call whenever or wherever that may be.

Moreover, despite these apparent disadvantages, the position of health officer is not at all easy to obtain. For having a fixed salary attached to it—a rarity in medicine, even it if be only a paltry $100 a month—there are many who covet it. For every vacancy or additional place to be filled there are often a hundred or more applicants; and few of these vacancies and places occur. No one under the Civil Service rules can be discharged except for neglect of duty, hence dismissals are rare. This is not only because those in office are very circumspect in their work and conduct, not to give cause for dismissal, but also because the character of the work is such that it necessitates the retention in office as long as possible of men who have been specially trained for its performance. And it is manifest that no body ever resigns voluntarily a paid position unless he has something better in view, or at least the insurance of a similar income in the receipt of which he will enjoy greater independence and superior advantages.

But for all that, the situation is not quite as black as it is here painted. Nor do I wish, in concluding my paper on the health department system, to leave behind a pessimistic impression of its work and influence. Far from it; for although I do not desire to pose as special pleader or spokesman for any health department in particular, I am a staunch supporter and advocate of the system in general. The minor disadvantages connected with the position will depend to a large extent upon one's own personal character and behavior, and they are, in my judgment, more than counter-balanced by the possible advantages to be gained as medical health officer. The obstacles in the way of appointment are undoubtedly great, but not insuperable, as is evident from the fact that these positions have been, and are being, constantly secured by others.

Finally, with regard to the work itself, I believe that there is nothing which a young medical graduate can undertake at the present time that will give him a broader field of vision in his profession especially at the beginning of his career, or more opportunity to do "the greatest good to the greatest number," while certainly benefiting himself, than the study of sanitary science and preventive medicine under the modern municipal health department system.

THE ADVANTAGES IN EXAMINING FOR LIFE INSURANCE.

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AT the request of the Editor, I wish to set forth some of the advantages which accrue to the active practitioner when he becomes a medical examiner for life insurance. I can only speak in this connection for a legal-reserve, level-premium company, for my experience has been confined exclusively to that field. I know nothing of the practical workings of industrial and assessment insurance.

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What I have to say must, therefore, be considered entirely foreign to those forms of insurance and applicable only to those companies which are sometimes called "old line companies." These all require about the same standard in their examiners and most of them pay the same fees, so that observations suitable for one are generally appropriate to all.

The standard set by the companies is a high one and the fee paid is large enough to warrant the best of workmanship. A medical examiner must be not only a good physical diagnostician, but also a man of tact and discretion. Above all he must have a firm backbone and a resolute aversion to being cajoled even by the most plausible agent. It is not always a easy matter to avoid this but it is a prime requisite. He must also be careful and precise in recording the answers to the various questions. To study the examination in black and white is quite a different matter from examining the applicant in flesh and blood. A small omission in an answer may entail considerable correspondence and much delay, which may prove fatal to the agent's hopes. The examiner must be prompt in keeping his appointments. It is true these cases are not matters of life and death, but they mean bread and butter to the agent. It is not right to disappoint him, as he may have worked long and hard on a case. Failure to keep appointments is the most common cause of dissatisfaction on the part of an agent. He generally rectifies it after a few mishaps by ceasing to use that examiner, and then the examiner feels that he has a grievance.

It may be observed that these remarks so far apply to the qualifications of the examiner and not to the rewards which he is supposed to get. That is true, but we also show that the best man deserves the prize. The successful general practitioner is the one who possesses the qualities needed to make a successful life insurance examiner. He is the one that the company wants. Especially in his earlier years he will find the rewards of great advantage. Long before his practice has grown so large that he is known to everybody, he will find that his interest in life insurance work begins to diminish, for the encroachments of clinical practice will begin to hamper him. When he finds that he can no longer give the time and attention which it deserves, let him say so to the company. Do not let him be a dog in the manger, who cannot do the work himself and begrudges anybody else having a share in it. He can often make it his privilege to pick out his successor, thereby still retaining some influence. His position, though shorn of some prizes, will preserve its connection with the company and the latter is very glad to avail itself of his advice and counsel, when he can give it.

The rewards due a medical examiner for a life insurance company can be divided under several heads.

1. Let us consider the pecuniary aspects, as this naturally occurs first to most people. The fee that nearly all first-class companies pay for each examination is $5.00. This includes the answering of a number of questions, a thorough physical examination of the applicant and a chemical examination of the urine. It does not include a microscopical examination of the urine, as this is required only under special conditions and then an extra fee is paid for it. The same fee is paid whether the case is accepted or declined, so that no premium is put upon the wishes of an agent to have a case passed.

This is good pay for the work required, as good as any doctor gets except a few high-priced consulting specialists in the large cities. I do not know of any place where the regular fee for the first visit is over $5.00, and this visit should include the careful anamnesis, a thorough physical examination, a chemical examination at least of the urine, and a scheme of therapeutic procedure which contains a prescription or two, an outline of dietary and many other details. There is usually also a more or less guarded prognosis and some talk, perhaps discussion, with other members of the family. All this service is rendered in the great majority of cases for a fee no larger than $2.00 or $3.00, and the average doctor as he rides away wonders whether he will be able to collect a cent, and when. Now, with a life insurance company his collections are 100 per cent. good, payable each month, and the work certainly is easier and takes less time. Occasionally the company requires him to see the applicant again, but that is due in most cases to the examiner's own carelessness in not fully or properly answering the questions which are plainly set forth in the examination blank. Outside of these mishaps, which are his own fault, the occasions on which a company calls for additional work within the prescribed fee are comparatively rare. It seems to me that the pecuniary reward alone should make every young practitioner eager to qualify as examiner to as many life insurance companies as he can.

2. From a professional standpoint, a medical examiner for a first-class insurance company may be considered as one who is endorsed and approved by competent authorities after careful investigation. A life insurance company takes great pains and goes to much expense to pick out the best men they can find in a place. It sifts the wheat from the chaff, and when it asks a physician to be a medical examiner it signifies thereby that he ranks among the first of his associates. The public understand this and value the recognition which a doctor thereby obtains. The profession appreciate it, too, although the unfortunate who does not

obtain these prizes may affect to sneer at them. But notice how eagerly he seizes any opportunity to prefer his claim for such a position. See how the experienced agent works on his gullibility by assuring him of an examinership if he will only take out a $10,000 policy, the premium on which he will easily be able to pay out of his fees, according to the plausible agent. This story is old and frequent, but to the pain of the profession be it said, it is perennially fresh to some credulous ones. In a well-regulated company it is a most certain way of not having one's desires gratified.

3. From a scientific point of view examining for life insurance also has its advantage. It enlarges one's sphere of observation and opens up a phase of human nature which has never been presented to him before. He has to rely to a much greater extent upon physical diagnosis, for in this new field he will find that patients minimize their symptoms. The most conscientious applicant will insensibly gloss over his previous mishaps, and a less scrupulous one will force the skill of the examiner to the utmost. How often do we find under careful cross-questioning that the simple chancroid cured in a few weeks develops into a typical case of syphilis; how a little blood-stained mucus grows into an ordinary pulmonary hemoptysis. This is not the pleasant side of human nature, but unfortunately it is very common, and a physician is all the better equipped for having seen some of it. It makes him more self-reliant, gives a greater dignity to his physical examinations, and teaches him the self-respect due his own keen observation.

4. It is also a social advantage outside of the recognition which it obtains for him in the profession. The public appreciates the position which he holds and respects the confidence shown in him by the company. He meets life insurance agents of all degrees and shade and acquires a great deal of tact in treating their requests and desires, many of which he is unable to comply with. An agent works hard to interest an applicant, he is human, and he discounts the future as thoroughly as the average man. When he gets an application signed he feels that the commission is in his pocket, and not infrequently he spends it. Naturally a rejection is a great disappointment and he is very apt to take it hard. A medical examiner learns to handle him with such tact under these circumstances that no friction is developed and at least an outward appearance of satisfaction is maintained. This experience is of use to the examiner in all his work, as it is no light accomplishment to convert a disgruntled man into a complaisant one without changing one's own views. It also develops a moral backbone, a very wholesome thing to have in all walks of life.

These are some of the advantages of examining for life insurance and they are appreciated by the best men in the profession. For instance, Dr. Henry M. Lyman, Dean of the Rush Medical School and Professor of Practice in the same, has been for years our chief medical examiner in Chicago. It is only during the past year that his health has prevented him from doing the major part of the work as heretofore. In New Orleans Dr. John B. Elliott, Sr., Professor of Practice in the Medical Department of Tulane University, holds the same position. I could mention many others of equal rank in the profession who are examiners for life insurance.

Of course there are some difficulties. The work is exacting and requires careful, conscientious attention, and therefore a lazy or careless man will find it hard. It also calls for a high grade of medical knowledge and, therefore, the ignorant or badly-educated man will find it impossible. It demands the strictest integrity and therefore the corruptible man will find no place for himself. But to the honest, bright, up-to-date practitioner examining for life insurance offers great inducements. He may even become so absorbed in this class of work that he seriously neglects his other professional duties and is tempted to give them up entirely that he may have more time to devote to this specialty. This is a great mistake and must be carefully guarded against. A good examiner must keep himself constantly informed of the progress of medical science and he should be constantly in touch with the practice of his profession. A physician should never give up his practice simply in order to make examinations for life insurance.

THE OUTLOOK FOR THE YOUNG PHYSICIAN IN STATE HOSPITAL AND SANITARIUM WORK.

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IT is assumed that every young physician on receiving the degree which admits him to the dignity of the doctorate in medicine is desirous of qualifying himself to meet the highest demands of professional life through the attainment of a thorough training and experience in a general hospital, which training and experience are nowadays regarded as essential to the completion of a preliminary medical education, even though a hospital course is not obligatory. In other words, a medical degree while it confers the legal right to practise medicine does not in itself afford a man professional standing nor imply the moral right to practise which a proper training alone can give.

Probably the most important question which confronts the recent graduate in medicine, as he

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is about to enter upon the threshold of his professional career is how to start in practice. In common with other medical teachers, I have frequently been asked by the student or young physician, as to what branch or department of medicine I would advise him to take up. To this I have usually replied: "Take up that branch for which you find you have an aptitude and liking after you have had sufficient experience in general medicine to enable you to form an intelligent judgment in respect to the question." The young physician is prone to feel that certain departments of medicine are distasteful to him, or at least not to his liking, and to think that by ignoring these and devoting his energies to the particular branch in which he feels most interest he will more speedily become proficient in that. This process of reasoning is too often misleading and, if acted upon, will almost certainly result disastrously. The constantly widening scope of medical science renders it difficult, if not impossible, for one man to become skilled in every department thereof, hence the tendency to a division of professional labor into specialties which has come to pass. The true specialist, however, is not a "hot house" growth, so to speak, but, instead, is a natural outgrowth in the broad field of general medicine in which he had become well grounded before developing the qualities of an expert through the discovery of a special aptitude or taste which has led him by a process of evolution, as it were, into the particular field of practice in which he finally acquires an especial reputation. The specialist whose superstructure of knowledge rests upon a broad and deep foundation of varied experience in general medicine is not likely to dwarf the measure of his professional capacity by the habit of overestimating the importance of his specialty and thus lose sight of other influences which may have an important bearing upon the disease for which his special knowledge and skill are sought. On the contrary, his experience in general medicine has rendered him sufficiently familiar with the phenomena of disease to enable him to exercise a sound judgment in the practice of his specialty.

This brings me to the subject of which I desire to speak, in compliance with a request of the Editor of the MEDICAL NEWS, namely, "What are the chances of the young physician in State hospital and sanitarium work; that is, in institutions for the insane, whether public or private?"

First, as to the State hospitals, it may be said that the medical service in State hospitals for the insane, especially in the State of New York, offers to the young physician a most inviting field for the clinical study of mental disease as well as in the matter of pecuniary compensation and allowances, which, in comparison with the pay and allowances of medical officers in other eleemosynary institutions, are on a very liberal scale. Then, too, a position on the medical staff of a State hospital is one of honor, dignity and responsibility, as well as a credential to the best society in the community in which the hospital is situated, if the incumbent chooses to make it so. The medical service in the New York State hospitals for the insane is graded as regards rank and pay respectively as follows: medical superintendents, $3,500 to $4,500 per annum, and maintenance for self and family; first assistant physicians, $2,000 to $2,500 per annum, and maintenance for self and family; second assistant physicians, $1,500 to $2,000 per annum and maintenance for self; assistant physicians, $1,200 to $1,500 per annum and maintenance; junior assistant physicians, $900 to $1,200 per annum and maintenance. The number of physicians inclusive of superintendents and medical internes is about 130. The number of medical officers allowed for each hospital is as follows: one medical superintendent, who is appointed by the managers and who is the chief executive officer of the hospital and has the general superintendence of the entire hospital plant, together with its furniture, fixtures and stock and the direction and control of all persons therein; one first assistant physician, who is the superintendent's deputy and who acts in the capacity of superintendent in case of absence or illness of the latter; a second assistant physician, who usually has charge of a department of the hospital or of a group of buildings, where there are detached buildings; assistant physicians, usually one in charge of each department, assisted by a junior physician. The number of assistant and junior physicians in each hospital is determined by the State Commission in Lunacy in accordance with the number of patients, the ratio being one staff physician to about two hundred patients. Each State hospital is also required by law to have one woman physician on its staff, at an annual salary of $1,000 to $1,500 and maintenance, but who is not in the line of promotion. All medical officers receive an increase of salary from the minimum to the maximum of their respective grades at the rate of $100 for each year of continuous service. Superintendents are appointed by the Board of Managers and all other medical officers by the superintendent. Appointments are made only from certified lists furnished by the State Civil Service Commission before whom the candidate must have passed a competitive civil service examination. Certain qualifications are requisite in order to become eligible for this examination, namely, for the position of superintendent candidates must be well-educated physicians, graduates of an incorporated medical college and have had at least five years actual experience in an institution for the insane; candidates for first assistant must possess qualifications like those prescribed for superintendents except that the period of experience in an institution for the insane is reduced to three years. Physicians below the grade of superintendent and first assistant, other than women physicians, must enter the service as

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juniors. Candidates for examination for the position of junior must be legally qualified practitioners of medicine.

Under existing regulations promotions of assistant physicians to the grade of second assistant, also of juniors to the grade of assistant physician, may be made upon the ground of fitness and merit irrespective of length of service and without further civil service examination. This regulation is designed to furnish an incentive to officers in these grades to merit promotion. Application blanks and information as to time and place of holding examinations for positions of assistant physician and junior physicians may be obtained from the Secretary of the State Civil Service Commission, Albany, N. Y. The names of successful candidates are placed on the "eligible list," in the office of the Commission, from which selections are made whenever vacancies occur. In view of the fact that these examinations are usually a bugbear to young physicians it should be said that the questions—about twenty in all—relate only to medicine, surgery, obstetrics, physiology, etc., and are of such a nature that any recent graduate should be able to answer them readily. The examinations are in writing and candidates are allowed five hours in which to complete them.

In addition to the regular medical staff each hospital is allowed two medical internes or clinical assistants who receive an annual salary of $600 and maintenance. These positions are open to recent graduates in medicine and serve as a stepping-stone to staff appointments, especially to civil service "eligibles" while awaiting a vacancy on the regular staff. Internes are appointed by the superintendents, after a formal civil service examination held at the hospital by a local examining board. The medical service of the New York State hospitals is practically free from partisan influences, the tenure of office being secure during good behavior and efficient service. Each officer is allowed an annual vacation with full pay during absence. Thus it will be seen that the attainment of a superintendency is open to every medical officer in the service who proves himself efficient and worthy. It is safe to say that among the present superintendents of the New York State hospitals—17 in all—there is not one who did not reach his position within a period of ten years from the time he entered the service. Here, as in other fields of labor, promotion invariably comes without seeking to him who proves his fitness therefor by a faithful, efficient and zealous performance of the duties which fall to his lot. In fact, it is merely a question of the survival of the fittest, a race in which the drones and laggards are left behind.

In addition to salaries, the allowances which the State makes to medical officers of hospitals for the insane are most liberal. The living apartments of superintendents and their families—in some instances separate houses being provided— are in all cases ample and in some even palatial in point of construction and arrangement, as well as luxuriously furnished. Servants, cooks, waitresses, chambermaids, coachmen, etc., are supplied by the State; also horses and carriages, unlimited laundry facilities, and, in fact, everything that is essential to a gentleman's well ordered home. In addition to these, superintendents have the free use of telegraph, telephone, stationery, stenographers, etc., also liberal table supplies and, incidentally, the use of the products of the farm, garden, green houses, etc. It is estimated that these allowances, exclusive of salary, are equivalent in value to $10,000 or $12,000 per annum. The hospitals are also liberally supplied by the State with standard medical books and journals, instruments of precision and in fact everything in the way of medical and surgical appliances, laboratory facilities and equipments, etc., that belong to a well organized modern hospital for the insane. Add to these the wealth of clinical and pathological material with which the hospitals abound and it at once becomes apparent that the statement which I made at the outset, that "the medical service in State hospitals for the insane offers to the young physician a most inviting field," is not an exaggerated one. Moreover, the opportunity of making a reputation as an alienist that will insure success in the private and forensic practice of mental medicine is open to every medical officer who chooses to avail himself of it. To this end "the good assistant physician" will cultivate a true scientific spirit and professional zeal by a careful and systematic study of the numerous interesting cases in his service, writing them up from time to time for presentation to medical societies and to medical journals. These are the way in which medical men make legitimate and lasting reputations. The bane of State hospital life and one which the far-sighted and ambitious staff physician will studiously avoid, is a tendency to routinism and perfunctory performance of duty. The men who yield to this tendency, and I regret to say that many do, rarely attain to a superintendency or to high repute as specialists.

Respecting the chances of the young physician in private institutions or so-called sanitariums for the insane, the subject may be disposed of in few words. There are two classes of private establishments for the insane, namely, incorporated private asylums, or hospitals, and small sanitaria that are conducted on the so-called "family plan." The former are comparatively large, quasi public institutions under the control of boards of managers or governors and are organized and equipped much like the State hospital, having a medical superintendent and staff of assistant physicians. The latter are appointed by the superintendent and are not subject to civil service requirements. These institutions receive only private or "pay" patients, and, while the clini-

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cal advantages to be had therein are nearly if not quite as great as those in the State hospitals, the pay and allowances are generally less, as also are the chances of promotion; nevertheless, the medical service in this class of institutions offers many attractions to the young physician in the way of clinical advantages and comfortable surroundings.

It need hardly be said that owing to the comparatively small numbers and the class—wealthy—of patients treated therein, the small private sanitaria for the insane afford only meager opportunity for the clinical study of mental diseases and practically none at all for pathologic investigation. All of the legitimate institutions of this class in the State of New York are licensed by the State Commission in Lunacy and are subject to visitation by that body. The medical head of the institution who usually is also the proprietor or owner, is designated officially by the Commission "Physician in Charge," and he must have had five years actual experience in the care and treatment of the insane in order to obtain a license. Assistant physicians are appointed by the physician in charge, subject only to formal approval by the Commission as to good character and the legal right to practise medicine. The rate of compensation is determined by mutual agreement between employer and employed. Most of the proprietors of strictly private institutions for the insane throughout the country are men who have acquired a practical knowledge of the treatment and care of the insane in public institutions for that class, a fact which suggests another inducement for young physicians to become proficient in "ministering to a mind diseased."

The number of physicians engaged in private asylum work in the State of New York is about 40.

In conclusion, there are a large number of hospitals and institutions for the insane throughout the United States in which numerous physicians find useful, profitable and congenial professional occupation.

85 Madison Avenue,

THE MEDICAL MAN IN THE UNITED STATES MARINE-HOSPITAL SERVICE.

NOT every man who passes brilliant examinations, nor every keen, eager worker in a medical school is sure of success in the practice of medicine. So many elements enter into the qualifications of a physician who works up a large practice that the medical education is but the foundation of success, and not the means to it. Sufficient capital to furnish and equip an office, sufficient means to move in good society until the practice comes; good breeding, tact and some social accomplishment to make one attractive as a man; without some one of these, the man of brains finds it difficult to bridge over these years between the time when he first signs his name as a physician, and the day when he has made it known.

It is therefore a sign of wisdom when the graduate pauses to ask himself whether the mental qualities that brought him honors in his medical course are supplemented by those social and material attributes that will bring him a good practice. If he be a man of parts, and more keenly interested in his work than in the business side of it, he may find the best expression of his powers in the Marine-Hospital Service. The Treasury Department of the United States Government offers to the ablest youths of the country an assured income and excellent social position, and what is practically an appointment for life to those that are best qualified to fill the positions.

It is by no means the desire to paint the life of the Marine-Hospital Service in alluring colors in order to induce young men to enter the examinations, as this is entirely unnecessary, for the classes at present are as large as can well be handled, and the tendency is towards increasing members, but as the time for passing the examinations is limited to the ages from twenty-one to thirty, it is well for those who think of entering this branch of the profession to take their examinations as soon after their graduation and hospital service as is possible, for the qualifying examinations are very severe and exhaustive. It is not that the actual book knowledge required is any more than that required by any first-class college, but the knowledge in every branch must be extremely thorough and practical, so much so that unless a man takes a special course of training for a few months it is difficult for him to attain the 80 per cent. that places him on the eligible list.

The positions, however, are well worth the effort of special preparation, for these detailed and comprehensive examinations. They insure good incomes which increase every five years irrespective of promotion. If a medical officer incurs a permanent disability he is retired on a comfortable pension.

The assured position is apt to tempt men who feel that the world owes them a living to consider the Service as something to fall back upon; but it is by no means an asylum for the not-over-energetic nor a pensioned shelter for the broken-down; it is a very exacting and comprehensive service on which the health of the country at large depends. The physical examination, in the first place, throws out all but men of robust physique, for as they must live in any part of the country that the Government chooses to place them, they must be able to stand any climate and also great strain of work in times of emergency. The preliminary requisites of education are high, and the moral tone of the candidates is carefully considered; so that in order to compete at all for the position a man must be above the average, and even after he has passed his examinations satisfactorily he is merely eligible for appointment, and if no appointment comes to

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him within a year he must be re-examined. The examining board hold for themselves the privilege at any time to decline to continue a man's examinations, if for any reason they feel sure that he would not make a suitable candidate, and no amount of influence, or wire-pulling or politics can get a man into one of these life positions if his own personal merits do not commend him to the examiners.

The general information regarding the examinations may be briefly summed up as follows: Examinations are usually held once a year, in the spring, sometimes more frequently. The boards meet either in Washington or New York. All applicants must be graduates of reputable medical colleges. They are given, first, a physical examination, including a test of color vision. Absolute health is a prerequisite to appointment. Each applicant then writes a personal history of himself, giving his educational advantages, etc. A written examination is then conducted in the chief branches of medicine, including anatomy, physiology, chemistry, materia medica and therapeutics, practice of medicine, practice of surgery, obstetrics and diseases of women, hygiene, pathology and bacteriology. This is followed by a brief clinical examination in a hospital. Added to this is an oral examination in common school branches, also the collateral sciences and literature, sufficient to demonstrate the scope of each applicant's preliminary education. Each applicant reaching the grade of 80 is eligible for one year and appointments are made to vacancies as they occur in the relative order of merit.

In addition to the Surgeon-General, the corps consists of three grades, namely, Surgeons, Passed Assistant Surgeons and Assistant Surgeons. A successful applicant is appointed to the grade of Assistant Surgeon and is usually first assigned to one of the large Marine Hospitals in order to become familiar with the routine work of the Service. His salary is $1,600 per annum. After five years' service as an Assistant Surgeon, the officer is eligible for examination for promotion to the grade of Passed Assistant Surgeon, with a salary of $2,000. Appointments to the grade of Surgeon are made in the order of seniority from the list of Passed Assistant Surgeons, as vacancies occur in the list of Surgeons. The salary of a Surgeon is $2,500.

United States Marine Hospitals are located on all the navigable waters of the United States. The chief stations on the Atlantic Coast are as follows: Portland, Me.; Boston and Vineyard Haven, Mass.; New York, N. Y.,; Philadelphia, Pa.; Baltimore, Md.; Norfolk, Va.; Wilmington, N. C.; Charleston, S. C.; and Savannah, Ga. Those on the Gulf Coast are at Key West, Fla.; Mobile, Ala.; New Orleans, La.; and Galveston, Tex. On the Pacific Coast, stations are located at Port Townsend, Wash.: Portland, Ore.; and San Francisco, and San Diego, Cal. On the Great Lakes, the chief ports are Detroit, Mich.; Chicago, Ill.! Cleveland, O.; and Buffalo, N. Y. On the Ohio and Mississippi Rivers, officers are stationed as follows: Pittsburg, Pa.; Cincinnati, O.; Louisville, Ky.; Evansville, Ind.; Cairo, Ill.; St. Louis, Mo.; and Memphis, Tenn.

In addition to the Marine Hospitals, there are twelve national quarantine stations controlled by the Marine-Hospital Service, which are located at various seaports on the Atlantic, Pacific and Gulf coasts of the United States.

The hospitals are furnished with good medical libraries and are also supplied with a number of medical journals. Each hospital is equipped with a working clinical laboratory, also photographic and other scientific apparatus.

The Service conducts in Washington one of the best-equipped laboratories in the world, and a bill is now in Congress providing for a separate building for same. It is the policy of the Service to detail young officers in small classes for a term of service in this laboratory with a view to equipping them as scientific clinicians and practical bacteriologists. Several officers who have shown special aptitude in this line of work have been educated by the Service in the best laboratories of Europe. Encouragement is given to those who desire to pursue surgery or special lines of investigation and officers are urged to join medical societies and mingle with members of the profession in order to increase their own knowledge and promote the efficiency of the Service. They are permitted to publish professional reports based upon their own observations in hospitals of the Service. The Service treats something over fifty thousand patients a year.

One duty of the medical officers is to examine arriving alien immigrants and, at times when epidemic disease threatens to invade the United States from Europe, officers are detailed to serve in the chief European seaports for the purpose of inspecting emigrants before embarkation. Occasionally an officer or a commission of officers is detailed to proceed to foreign ports for the purpose of making investigations along particular lines.

With the annexation of the new possessions and dependencies of the United States, the Marine-Hospital service has extended to such territory and officers are now stationed in Cuba, Porto Rico, Hawaii and the Philippines.

In times of epidemic disease in the United States when such disease threatens to invade one State or Territory from another State or Territory, the Marine-Hospital Service takes control and institutes measures for the suppression of the same.

Thus the particular abilities of the different officers of the Service are at the command of the country's particular needs, so that the energetic man with a power of organization or the expert bacteriologist, or the accomplished diplomat all have a chance to rise to prominent positions in the medical profession.

Monument to Dr. Skene.—A movement is on foot to erect a monument to Dr. Alexander Skene of Brooklyn.

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MEDICAL PROGRESS.

Suprarenal for the Pain of Carcinoma.—When morphine, orthroform, nepthene, cocaine, and many other local and general analgesics fail to give relief from pain in advanced or recurrent carcinoma, E. A. PETERS (*Lancet,* Mch. 2, 1901) cites cases in which suprarenal extract has proved invaluable. He uses a 10-per-cent. solution and applies it locally two or three times in twenty-four hours. One patient with malignant esophageal stricture, after weeks of pain found immediate relief from sipping one teaspoonful of the 10-per-cent. extract. It would seem to be most valuable in this class of cases.

Fetal Periods of Stress.—The neuron of the human being passes through stages corresponding to those found in the adult fish, frog, bird, and mammal. In fish and batrachia the cerebral hemispheres do not cover the region of the third ventricle from which the eyes arise; the same in the human embryo of seven weeks. In reptiles and birds the hemispheres cover this, but leave exposed the region of the optic lobes, as in the human of the middle of the third month. In mammals the hemispheres cover cerebellum, medulla and olfactory lobes as in the human embryo at fifth month. In some mammals even of high order (*e. g.,* Hapalidæ) the hemispheres are smooth as in fifth month of human embryo. At any time fetal stress may cause arrest of development of the neurons. The power of passing through the fetal period of stress will depend on the condition of the fetus at the time. J. G. KIERNAN (*Medicine,* Apr., 1901) considers the most important of these periods to be the senile or simian (about four and one-half months) and that of sex differentiation. Arrest of development at the senile period may cause precocity and premature senility. If caused by syphilis there is the after-birth interference with the child's development. As to sex differentiation, long after impregnation nutrition is still influential, and even after the sexual organs have developed, poor maternal nutrition may arrest female development and cause reversion to the male type. At any time in life development may be arrested so that persons remain youthful. Such females are sexually anesthetic prostitutes, prurient prudes, hysteric reformers or gossip-mongers. Males may have the female instincts of modesty toward men and a liking for female occupations.

"Ureine" Non Est.—W. S. HAINES and C. S. WOODS (*Medicine,* Apr., 1901) have made extensive experiments in a search for the "ureine" described by Moor. They conclude that there is no such substance and that Moor's "ureine" is simply a strong aqueous solution of well-known urinary solids and of chemicals used in operating on the urine.

Atmospheric Ozone and Bacteria.—Some interesting experimental conclusions as to the bactericidal power of what they call "dry ozone" are detailed (*Lancet,* March 2, 1901) by RANSOME and FOULERTON. They tend to upset the time-honored view of the ozone of the pine forest. They are as follows: (1) Ozone in the dry state and under the conditions in which it occurs in Nature has no appreciable action on the vitality of pathogenic bacteria; (2) moist ozone is a very efficient bactericidal agent; (3) this suggests an interesting relation between dry ozone and water-free chlorine or sulphur dioxide; (4) so far as is now known any purifying action which ozone may have in Nature's economy is due to its oxidation of organic matter rather than to any direct bactericidal power. It interferes with bacterial growth only by the destruction of available food supply.

Temporary Uterine Fixation.—H. ROSE (*Centralbl. f. Gynäk.,* 1901, No. 12) calls attention to an operative procedure calculated to prevent retro-uterine adhesions in such conditions as extra-uterine gestation. He calls it temporary ventro- or vaginofixation, because the supporting suture is absorbed before any permanent adhesions are formed and thus the normally free mobility of the organ is resumed. In ventrofixation he passes an ordinary heavy catgut suture through one horn of the uterus at the origin of the round ligament and ties the same in the usual manner in the abdominal parieties. Thus the uterus is hung up obliquely out of the pelvic cavity away from the peritoneum ripe for adhesions. Only a single point is in contact with the parietal peritoneum and any adhesions which may form at it are not enough to support the womb after the catgut is absorbed. In the vaginal fixation in colpoceliotomy anterior the catgut armed with two needles is passed through one or both round ligaments at their roots *extraperitoneally* and emerge through the vaginal substance, one on either side of the wound, while the bladder is strongly drawn upward by an assistant. The peritoneum is now sutured and the vaginal wound closed in the usual style. Then this supporting suture is drawn out until the uterus comes up out of the Douglas cul-de-sac and then tied. Its office is performed by the time the gut is absorbed.

Enteroptosis.—In a résumé upon this subject M. EINHORN (*Med. Rec.,* Apr. 13, 1901) follows the nomenclature of Glénard who applies the term to a prolapse of one or more abdominal viscera. The corset is undoubtedly a very important factor in the causation of these abnormalities. It is said that the total pressure of the corset varies between thirty and eighty pounds. The liver suffers from direct pressure, the other abdominal organs are pressed downward and the pelvic floor bulges by tight lacing about one-third of an inch. Constitutional weakness is also considered a predisposing cause. Enteroptosis is accompanied in most cases with movable kidney and occurs in about 33 per cent. of females having digestive troubles, and in about 6 per cent. of males having the same disturbances. No symp-

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toms may be present. Usually, however, there is a faint feeling or weakness after arising. Sensation of fatigue with pronounced backache after walking is common in women, and a dragging sensation in epigastrium is frequent. Flatulence, and constipation are usually present and frequent micturition is found in a large number of cases. Physical examination shows usually a lax abdomen, organs easily palpated, and a depression in epigastrium with protrusion below when the patient stands. The position of the stomach can be demonstrated by splashing sounds, by insufflation with gas or water or by the use of a gastrodiaphone. An auxillary in diagnosis is Glénard's "belt test," in which the physician stands behind the patient encircling the abdomen with the hands and thus supporting the lower portion. Relief of distress speaks in favor of enteroptosis. The prognosis is good, but complete cures are naturally very rare. The principal part of the treatment of these cases consists in the application of a well-fitting abdominal supporter, ample nutrition and exercise. The bandage should be provided with windows over the iliac crests, also with straps at the thighs which prevent slipping up. Rose recommended the use of adhesive plaster over the lower part of abdomen. Overfeeding, if possible, outdoor exercise and intragastric electricity are especially indicated.

Intestinal Obstruction.—W. J. WALSHAM (*Brit. Med. Jour.*, March 23, 1901) in discussing intestinal obstruction calls especial attention to a cause usually overlooked by most authors. It is the reduction of an old hernia, usually by the patient, occasionally by the physician, *en masse*, that is, sac with contents and all complete through the canal of exit into the body cavity. If the hernia is already strangulated, of course, the process goes on to the surprise and discouragement of the attending doctor. If the hernia be simply incarcerated strangulation will sooner or later appear, depending upon the usual accidental circumstances. The history going with this condition is a very painful, rather forcible, at first slow, then very sudden reduction, beginning and continuing with the pain and ending with "a pop," but usually without cessation of the symptoms of strangulation. As a rule just within the ring of the canal a tumor can be palpated and percussed which represents the hernial mass. The treatment consists of laparotomy and whatever management its findings indicate.

Intussusception.—C. P. CLUBBE (*Brit. Med. Jour.*, March 23, 1901) says that the diagnosis of this fatal and rather common condition in childhood must be made at the earliest possible moment and only can be reached by studious examination of the patient and careful history of the course of the disease has run. The treatment must be initiated without any delay. The first step must always be an enema, no matter at what stage of the condition the patient is first seen. Often an enema carefully given will reduce the invagination at least in part and convert one situated in the pelvis on the left, perhaps in the rectum itself, to one situated at the ileocecal juncture, where the trouble really began. Thus the operation itself will be much easier and briefer. For such an injection anesthesia to the surgical degree must be given always, to secure absolute relaxation of the patient, freedom from any pain, all possible decrease in the shock, and the possibility of observing the degree of the reduction. Should the injection fail to produce any improvement or total reduction a laparotomy must be at once undertaken. When the site of difficulty is reached, the invagination must be reduced by gentle squeezing on the *intussuscipiens*, never by traction on the *intussusceptum*. If success follows the effort the bowel must be examined because if dead a resection must be done at once. Such resection is the only rational treatment when other means fail. When the appendix has been involved in the invagination, on general principles it should be removed because its highly vulnerable organization makes it liable to necrosis although the rest of the bowel may recover.

Jacksonian Epilepsy, with Craniotomy and Implantation of Eggshell Membrane.—W. J. GREER (*Bristol. Med. Chir. Jour.*, March, 1901) reports in detail the case of a young woman, who eleven years ago sustained a fracture of the skull, was ill for two years, and suffered from epileptic seizures of a localized character. These fits had been absent for nine years, but had reappeared and were becoming more severe and more frequent. An operation was performed and a considerable quantity of hard, dense tissue and some softened brain matter were removed. To prevent adhesions between the brain and its coverings and the scalp a square inch of eggshell membrane was inserted between the brain and the skull opening and another piece placed outside over the opening and then the scalp was sutured over all. About four months after the operation following a slight injury the old cicatrix broke down and left a small opening in the scalp through which the second piece of eggshell membrane could be seen, white and glistening. This piece of membrane was removed in its entirety. Its structure had undergone no changes, and under it could be seen granulation tissue. The writer thinks that it was a mistake to insert this second and outer piece of eggshell membrane as it was unnecessary. The cixatrix is good, supple, freely movable and not in the least tender. The patient has had no seizures since the operation.

Changes in Bone Marrow with Leucocytosis.—In discussing the pathological alterations as found in bone marrow as a result of artificially-induced leucocytosis, H. RUBINSTEIN (*Zeitschrft. f. klin. Med.*, Vol. 42, No. 324) concludes as follows: (1) Leucocytosis is an exclusive function of the bone-marrow; (2) after the emigration of the already formed polynuclear leucocytes there is found in the marrow an increased production of large, homogeneous, mononuclear cells which soon show granules and develop into myelocytes;

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(3) with a much prolonged leucocytosis, these myelocytes may be stored up in the marrow in such numbers that they form one-half of all the cells; (4) the granular cells develop directly from the large, mononuclear and the granules are basophile in the early stages. This process goes on only in the marrow and never in the blood; (5) the large mononuclear elements develop from small, lymphoid cells which are peculiar to the marrow and distinct from the cells of the lypmh-nodes; (6) the eosinophile cells are formed in a similar manner.

Acute Pericarditis.—According to G. CARRIÈRE (*Le Nord Médical,* Apr. 1, 1901) the prognosis depends on (1) its cause; rheumatic pericarditis is fairly benign; that of scorbutus, Bright's disease, pyemia, or tuberculosis is very grave; (2) its nature; dry is not serious, serofibrinous more so, but not necessarily fatal; hemorrhagic is fatal indicating cancer, tuberculosis, or Bright's disease; purulent is usually fatal; (3) the extent of the inflammation; (4) the condition when attacked; it is very grave in old people, in the puerperal state, in alcoholics, the debilitated, the sick or the cachectic; (5) the general effect of the attack; if the prostration is great and the fever high the prognosis is serious; (6) the state of the myocardium; it is well to remember that when life is saved there may be adhesions which subsequently will give symptoms. The main point in diagnosis is the differentiation of the murmur from an endocardial, hemic, or extracardiac murmur. The pericardial murmur is usually superficial, harsh and grating, not transmitted, loudest in the third left space, and mid-systolic or mid-diastolic or both. It is increased by the sitting posture or on pressure with the stethoscope and may be accompanied by friction fremitus. The endocardial murmur is deeper, soft, blowing, transmitted and heard loudest according to the orifice affected, is systolic or diastolic and not changed materially by sitting up or pressure of stethoscope. The hemic murmur resembles the endocardial, but is transmitted only along the vessels, is heard most often and most loudly at base, and is systolic. The extracardiac sound is superficial, soft, mellow, not transmitted, mid-systolic or mid-diastolic, and heard mostly at apex or over left ventricle, seldom in third left space. It is modified by respiratory movements and change of position.

THERAPEUTIC HINTS.

Tuberculous Glands.—To avoid unsightly scars, G. B. MASSEY (*Pro. Phila. Co. Med Soc.,* Mch., 1901) makes a small opening into the gland with a narrow bistoury under ethyl chloride spray, and inserts a sliver of amalgamated zinc to act as the anode of a galvanic current of 1 to 3 milliamperes. This is turned on gradually and maintained for a few minutes till the tract is cauterized and sufficiently impregnated with the oxychlorides of zinc and mercury to keep it patulous for a few days. A gold electrode with amalgamated tip insulated up to ¼ inch from the point is then inserted and 2 to 10 milliamperes turned on for ten minutes and then the wound dressed. Through the sinus thus formed the dead bacilli and deposited chemicals can drain. The treatment is repeated about every three days till the gland has shrivelled.

Pericarditis.—If of rheumatic origin, writes G. CARRIÈRE, institute energetic salicylic treatment; if from other infection give quinine as a routine. Keep patient in bed on milk diet. Apply dry or wet cups to the pericardium, or leeches or sinapisms; bleeding, tincture of iodine or vesicatories are harmful. Keep the heart up by digitalis, sparteine, or caffeine. Digitalis should be preferred when the cardiac excitement is extreme, or there is hypotension, or arythmia. The author uses Nativell's crystallized digitalin in dose of ½ to 1 milligram (gr. $^1/_{130}$-$^1/_{65}$). In no disease should the action of digitalis be more closely watched. Never give caffeine toward night, as it increases the nervous excitement and insomnia, but in the daytime it may be given with good result as follows:

℞ Caffeine .....0.50-1.0 (gr. viij-xv)
Syrupi ..... 50. (℥ss)
Sod. benzoat..... 2.0 (℈i-℥v)
Aquæ ..... 100. (℥iij-℥ij)
M. Sig: Gm. 8.0-15.0 (℥ii-iv) at dose.

Sulphate of sparteine is less dangerous than either of the above in dose of gm. 0.01-0.05 (gr. $^1/_6$-$^5/_6$), one to three times a day. The pain and dyspnea may be controlled by injections of morphine. If effusion takes place apply a blister followed by an aseptic poultice. Stimulate diuresis by theobromine, gm. 0.50 (gr. viij), given four times the first day, six the second day, and eight the third, then decrease the frequency. Trional is safe for insomnia. Paracentesis is indicated if the effusion causes pressure symptoms (cough, dysphagia, vomiting, edema, neuralgia), if the pulse is small, irregular, if there is a tendency to syncope or cyanosis, if there is skodaic resonance at the back of the chest, if there is edema of the chest wall, or if the fever is intermittent or continues elevated and the complexion is leaden. Advanced tuberculosis is the only contraindication. Plunge the trocar straight in at a spot 5 cm. (2 in.) to the left of the sternum in the intercostal space just above the lower limit of dulness. Evacuate the fluid slowly, and if purulent wash out with an antiseptic solution, then withdraw the cannula quickly. Pericardiotomy is still in its experimental stage and so far has not given better results. Great prudence is necessary during convalescence; a good tonic would be:

℞ Fl. ext. kola } aa...c.cm 5.0 (ℳlxxv)
Fl. ext. coca, }
Ac. citric,..... gm. 1.0 (gr. xv)
Sod. arsenat .....0.05 (gr. $^5/_6$)
Sig. C.cm. 2.0 (℥ss) each day.

Absorption will be favored by potassium iodide.—*Le Nord Médical,* April 1, 1901.

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THE MEDICAL NEWS.

A WEEKLY JOURNAL

OF MEDICAL SCIENCE.

COMMUNICATIONS in the form of Scientific Articles, Clinical Memoranda, Correspondence, or News Items of interest to the profession are invited from all parts of the world. Reprints to the number of 250 of original articles contributed exclusively to the MEDICAL NEWS will be furnished without charge if the request therefor accompanies the manuscript. When necessary to elucidate the text illustrations will be engraved from drawings or photographs furnished by the author. Manuscript should be typewritten.

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SATURDAY, APRIL 27, 1901.

THE GRADUATE IN MEDICINE.

THE precepts of the old to the young are apt to be uttered either in a spirit of egoism or bitterness. The man who advises another to follow in his own footsteps, with "Never do thus," and "Always do so," implies that his success is a standard, while the man who attributes his failures to some unlucky accident, or unfortunate prejudice against him, or to the injustice of his fellows, has usually a beam in his own eye.

But the temptation to advise is too strong to resist. We who have but recently passed that way remember the slough of despond and see where we took the wrong turning, and it is with the idea of pointing out the safe, sure roads across the field of medicine that we have asked some of the leading men in the profession to prepare the articles of this issue for the students who are graduating in all the medical schools of the country.

The young man fresh from his course where hard work has brought him honors, and where the loafers meet their well-merited reward, suddenly realizes that it is one thing to turn the light of his intellect on and off, at the demand of examiners, and have its quality duly rated in decimal points, and quite another thing to let it so shine before men that they may see his good works.

If he has perception he realizes suddenly what it takes a conceited man a long time to learn, *viz.*, that life is a great game, and that one's education is only acquiring the rules. After graduation the game begins, and all men start practically free and equal. The three-tenths of a point that make the difference between the first-prize man and the second-prize man, or the two points less that meant no prize at all, are as insignificant as the race of the tendrils up a bean-pole. The test is in the beans. Therefore it is well for the successful to nip any propensity to pride, and for the slow to pick up courage, for the success of all is no longer to be measured by calculating professors, but by an unthinking, undiscriminating, but on the whole a very critical public that "knows beans" when it sees them.

The man who is going to succeed is he who adapts himself to conditions as they are instead of going around explaining how they ought to be. If he has a home, a social circle, a certain amount of influence in a far city or country place, he will, if he has good sense, return to it, bringing the results of his medical education to his own people. He may fear that he will always be "Tommy Jones" to them and that they will never let him mend their bones. He does not realize that the very men who pat him condescendingly do so to hide a certain aching regret and envy of the fresh vigor of well-trained youth, and that at his first strike of success his childhood friends will be the most proud of him, and, if he has taken pains to pay his respects graciously on his return, will herald his name abroad.

The man who begins to practise medicine in the city must descend from the dizzy heights of honor he may have attained in his classes, must forget that he is the nephew of the celebrated Dr. Bolus, and on the level plain of present opportunities must take up his line of march. His uncle will perhaps ask him to sit up nights with a wealthy patient, and permit him to give ether at his operations; but he will not risk his own reputation, nor ruin the youngster's chances by recommending him until he has proved himself. And to do this he must not only do minor surgery and write out prescriptions passably well at the clinic, but he must do it very well, as well as if for a millionaire patient, so well, in fact, that his technic, his manner, his interest in the case

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will be jeered at, as being a little better than the occasion demands. The present generation, as in the days of Piers Ploughman, has those who "do wel, do bet, and do best"; and it is those who do best who eventually get the reward from the profession if they have any connection at all.

But the modest, average good fellow who has no hopes of distinguishing himself by brilliant work need not despair, for a very good practice may be worked up by a very average man if he be a gentleman. To be a gentleman according to Roycroft philosophy is a fine art. A man who is gentle, generous and kind will disarm criticism and prejudice through the potency of a gracious presence. But books on etiquette will not serve the end, nor studious attempts to smile at the proper time. The words of Hubbard, the sage, are gold to the family doctor, "Your heart must go out to all men, the high, the low, the rich, the poor, the learned, the unlearned, the good, the bad, the wise, the foolish—you must be one with them all, else you can never comprehend them. Sympathy! It is the touchstone to every secret. But knowledge must go with sympathy else the emotions will become maudlin. Knowledge in use is wisdom. Get knowledge by coming close to Nature, listening to her heart-beats, and let your heart go out to humanity by a desire to serve."

Apart from the question of character and environment comes the practical issue that is uppermost in nearly every student's mind, How is he to make his living during the first three years? It is jarring to the pride of a young professional man to realize that he is twenty-five years of age and has barely earned enough to buy his own neckties. But the discomfort is still greater when he finds that, although thoroughly equipped, he cannot find enough paying work to pay his board and office rent, and is obliged to depend on his father for several years more.

It is from this economic point of view that the current issue of the MEDICAL NEWS has been prepared. Every man who has contributed a paper on one of the different ways and means of obtaining a livelihood in medicine writes from the experience that has made him an authority on the subject. It is with no sense of egoistic superiority that each lays down certain principles of action, but with the frank desire to cooperate with us in giving a greeting to the young men who are about to join the profession and to bid them take courage.

The conflicting stories afloat in the profession cause undue hope and depression in the student's mind. The rumor that young Dr. Goldbrick made $7,000 in practice during his first year, by setting up a coach and Japanese servant and doing the swell; the reported confession that the now famous surgeon, Dr. Sawyer, only collected $25 in his first year, and the misleading statistics that the average income from physicians' practice all over the United States is about $900 a year, all have nothing to do with the question of each individual student's success.

We state emphatically that there is a living for every hard-working, well-trained youth who leaves any reputable medical school in the country. It may not be the kind of living that collects a $190,000 fee from a single patient, but it surely will not be a threadbare and down-at-the-heel income.

One thing we beg the young men of the profession to note in all the articles we present, that the men who know believe that honest, efficient work, good sense, and a modest bearing ensure success.

POSSIBLE CONTAGIOUSNESS OF DIABETES.

THE most interesting points brought out in the recent investigations of diabetes concern the occurrence of the disease in families. It is easy to suggest heredity and dismiss the facts from the mind as if that suggestion afforded any rational grounds of explanation. Every one of the chronic contagious diseases has at some time in its history been considered hereditary. At the present time there are few biologists who pretend to believe in the direct heredity of any acquired characteristics, pathological or physiological. Moreover, in the case of diabetes the question of the origin of family diabetes is still further involved by the occurrence of marital diabetes. The number of cases that have been reported in which both husband and wife, although of different stock, have suffered from diabetes is entirely too great to think them due to coincidence. As a rule, just as with tuberculosis, the communication of disease seems to be from the husband to the wife. He suffers first and the lowered resistive vitality incident on home-keeping and worry makes the wife a victim.

Conjugal diabetes was at first explained on the score of conjugal syphilis. Syphilis, like heredity, is however an easy word to inject into a discussion on etiology. Especially of

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late years when it is claimed by ardent syphilographers that the disease may run an absolutely latent course, it is a simple matter to have recourse to it as an explanation of obscure causation in disease, but this adds absolutely nothing to our knowledge of the subject. With regard to conjugal diabetes, in a number of recorded cases there was absolutely no sign or clinical history of syphilis and no postmortem evidence of the disease's previous existence.

Recent clinical observations point more and more to the conclusion that diabetes may, in some cases, be of infectious origin. Transient glycosuria occurs in many of the infectious diseases. It has been noted, in slight amount at least, in over one-half the cases of whooping-cough. After pneumonia it has been found in some 12 per cent. of cases examined and the presence of sugar in the urine could be detected as long as three months after convalescence had been established. Like albumin in the urine, sugar would seem to occur during the course of many severe infections. The acute diabetes of young children bears all the stigmata of an acute infection.

Despite all the study that has been devoted to the pathology of diabetes there remains a certain number of cases in which no basis of organic change to account for the disease can be found. There is undoubtedly a pancreatic diabetes. There is perhaps a hepatic diabetes. Beyond these cases lie the nervous and so-called hereditary cases for which some explanation is asked.

It has been suggested that the disease is due to the presence of a ferment in the blood which converts the normally latent sugar of the liver and blood into glucose. In this form it cannot be used within the body, but is excreted as a waste product. What the nature of this ferment may be is not known. Supposing its existence, it is easy to see why diabetes attacks husband and wife and often carries off several members of the same family. The possibility of its conveyance by contact is sufficient to cause physicians to warn those in intimate contact with diabetic patients of the necessity for careful precautions as to special cleanliness before food and drink is taken. Of course, this will seem to most physicians absolutely unwarranted. They will scoff at the idea of the contagiousness of diabetes and will talk of the cruelty of making life harder for unfortunate patients by giving publicity to such an idea. It must not be forgotten that a short quarter of a century ago just these same things would have been said about the contagiousness of tuberculosis had anybody even suspected enough about the real nature of the disease to suggest family prophylaxis.

TEMPERANCE PHYSIOLOGY IN THE PUBLIC SCHOOLS.

WE are glad to note the signs of revulsion against the extreme temperance reformers, who have by the trick of their laws forced so much namby-pamby stuff into the schools under the head of physiology.

Bugaboo morals are the most childish and the soonest outgrown; and the small men and women who devour with large-eyed horror these exaggerated sentiments about fatty livers and ulcerated stomachs, delirium tremens and cancer of the throat following the use of alcohol or tobacco, quickly learn to discover even the truth in these statements.

We know only too well the means by which very excellent physiologies have been padded to make up the requisite percentage of words upon alcohol and tobacco, under a narrow-minded censorship that struck out every statement concerning the use of alcohol as a useful adjunct in disease; and we have marveled to see the results of scientific investigations deliberately perverted into false generalities.

We deplore the absolute ignorance of American teachers as well as children, concerning the fundamental laws of health, and we wish most heartily that temperance in the matter of eating, of tea- and coffee-drinking, and common sense concerning fresh air, exercise and sleep, as well as the economic value of foodstuffs, might be particularly taught in schools; but so unfair has been this temperance movement, and so great have been the exaggerations perpetrated on an unwary public, that we fear the influence that the schools should have on all matters of public health, including the dangerous effects of intoxicating drinks and tobacco, will be greatly diminished.

Already Western educators are opposing the teaching in its present form, and the Massachusetts Legislature is tightening the reins. Other States are realizing that they are not only being made ridiculous by their laws, but are seriously handicapped by sentimentality; therefore

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we hope that the day will soon come when the children will not be forced to swallow pure alcohol for practical physiology.

SAN FRANCISCO'S PLAGUE.

THE complete official report of the Commission, consisting of Drs. Simon Flexner, F. G. Novy and Lewellys F. Barker, appointed by the Secretary of the Treasury for an independent investigation of the plague in San Francisco is just to hand in the report of the Marine-Hospital Service.

It confirms the statements already made in the MEDICAL NEWS and serves to accentuate what was pointed out last November in our columns, that there was culpable negligence on the part of some of the health authorities of California in steadfastly closing their eyes to the fact that the plague existed in the Chinese quarter. Now that the true facts are made public in all their significant the thanks of the community are due to the Secretary of the Treasury for the wisdom shown in selecting so able a committee of investigation.

ECHOES AND NEWS.

NEW YORK.

New French Hospital.—The plans for the new French Hospital on Thirty-fourth street, west of the hospital's present site, are now completed and building operations are reported soon to be begun.

Appointment at St. Mary's Hospital.—Dr. J. R. Kevin has just been appointed attending surgeon to St. Mary's Hospital, Brooklyn.

Syracuse Health Board Stops "Rummage Sales."—A halt has been called upon the rummage sale. The Health Board has declared that it is a danger and menace to the community because of its liability to spread disease. For a year women's societies and the churches have reveled in rummage sales, the average being three a day in Syracuse.

Academy of Medicine.—At the stated meeting of the New York Academy of Medicine, to be held at Hosack Hall, May 2, 1901, under the auspices of the Section on Surgery, the general topic will be "The Clinical Aspects of Acute Intestinal Obstruction." Dr. Howard Lilienthal will read the paper and there will be a discussion on special divisions of the subject by Drs. B. Farquhar Curtis, George E. Brewer, Charles L. Gibson, Morris Manges, Henry Koplik and others.

Diphtheria Epidemic in Highbridge.—To prevent the spread of diphtheria, which is epidemic in Highbridge, Public School No. 91, the only school in the place, was closed last week by order of the Health Department.

Tuberculosis Hospital Commission.—The Committee on Rules of the Assembly April 18th amended Senator Davis's bill for the construction of a State Hospital for Consumptives in the Adirondacks so as to provide that the Commission to review the selection of the site shall consist of the Governor, the Speaker *pro tem* of the senate, and Speaker Nixon of the Assembly.

Consumptives' Hospital Trustee.—Governor Odell has named Norman S. Dyke, of Brooklyn, as a member of the Board of Trustees of the State Consumptive Hospital, in place of Walter Jennings.

Course in Bacteriology for Physicians.—The Department of Bacteriology of the New York University and Bellevue Hospital Medical College desires to announce that a short practical course on bacteriology will be given in the Carnegie Laboratory during April and May. The course will begin on Monday, April 29th. There will be given on alternate days a series of three-hour exercises on laboratory technic and the practical application of bacteriology in the prevention, diagnosis and treatment of disease. Physicians who have had some training in bacteriology and who do not desire to spend the time required for the whole course may select one or more of the exercises devoted to the consideration of special subjects. They may thus refresh their knowledge on those subjects of special interest to them and at least learn what assistance bacteriological examinations may afford in clinical work, the methods for the preparation of material for laboratory examinations, and the interpretation of results. The exercises will begin at two o'clock and will continue until five. The first six exercises will be devoted to bacteriological technic and must be taken together. The subjects for the last eight exercises and the dates for each are as follows:

May 13, 1901—The diphtheria bacillus and diphtheria antitoxin.

May 15, 1901—The tubercle bacillus and tuberculin.

May 17, 1901—The typhoid bacillus and the serum reactions.

May 20, 1901—The gonococcus, the pneumococcus and the streptococcus.

May 22, 1901—Examinations of water, ice and air, and their value.

May 24, 1901—Examinations of blood, urine, feces and milk.

May 27, 1901—Disinfection.

May 29, 1901—Miscellaneous.

Those desiring to take the entire course or only a portion of it are requested to notify Dr. Egbert LeFevre, Secretary of the Faculty, prior to April 25th, so that suitable arrangements for their accommodation may be made.

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The charge for the fourteen lessons will be $20. The charge for single exercises will be $2 each. Microscopes, apparatus, culture media, etc., will be furnished. The courses will be under the direction of Dr. Wm. H. Park, Professor of Bacteriology and Hygiene, assisted by Dr. Robert J. Wilson, Dr. H. H. Brooks, and Dr. R. H. Bebb, Assistants in Bacteriology.

PHILADELPHIA.

New Clinical Amphitheater for the University of Pennsylvania.—A gift of $25,000 has been made to the University of Pennsylvania by Mrs. C. B. Newbold for the construction of an obstetrical amphitheater. The new building will be 50 feet square and will accommodate 150 students. It will be known as the Scott Amphitheater, in memory of Mrs. Newbold's mother.

Resignation of Dr. Risley; His Successor.—Dr. Samuel D. Risley has tendered his resignation as Professor of Ophthalmology at the Philadelphia Polyclinic and College for Graduates in Medicine. As a mark of appreciation of his services the Trustees, after accepting his resignation, created the position of Emeritus Professor of Opthalmology and made him its first incumbent. At the same time Dr. William Campbell Posey was chosen to fill the vacancy caused by the resignation of Dr. Risley. Dr. Posey is a graduate of the University of Pennsylvania and since studying abroad has held positions on the staff of the Howard, Epileptic, and Wills Eye Hospitals, and the Home for Incurables.

A Large Fee.—Probably the largest physician's fee ever asked in this State is the bill presented by Dr. Walter C. Browning, of this city, for his services to the late Senator C. L. Magee of Pittsburg. The bill is for $190,000 and is for professional services rendered during a period of twenty-one months. There is included $17,000 for a trip to Atlantic City with the patient and also $12,000 for similar attendance at Hot Springs, Va. Local papers quote Dr. Browning as saying that Mr. Magee voluntarily doubled his night charges of $40 per hour and told him to charge $80. The charges for the trips mentioned are computed at that rate. The executors of the Magee estate claim that the charge is exorbitant and that no monthly bills have been found among the effects of the deceased. The bill will in all probability be contested.

The Corset for Movable Kidney.—Dr. A. Ernest Gallant of New York read a paper on the above subject at the Section on Gynecology of the College of Physicians April 18th. Dr. Gallant claims that from 90 to 95 per cent. of symptomatic movable kidney can be symptomatically relieved by the proper use of a corset. He states that movable kidney is quite a common condition. To determine its frequency, examination for it was made in 1,900 gynecological cases seen in dispensary work and private practice, with the result of finding 41 cases of movable kidney. Of these, 25 had both kidneys movable. The amount of suffering does not depend on the degree of mobility, those cases in which the kidney is at the pelvic brim as a rule giving the patient the least trouble. Dr. Gallant believes that fixation of the movable kidney often does not accomplish all that is desired, while mistakes in diagnosis make the surgeon hesitate at times to operate. Belts and pads have their disadvantages and as women persist in wearing corsets it is better to teach them to wear the corset properly than to try to induce them to give up the habit.

The Technic of Applying the Corset.—The corset for holding a movable kidney in place should be as long in front as can be worn and two inches smaller than the size usually worn. It should be laced from the bottom upward and while this is being done the abdominal wall should be drawn upward as much as possible thus making the corset act as a support when tightened. Before the upper end is fastened the kidney should be pushed well up beneath the ribs. The corset should be put on before the patient rises each day and should not interfere with walking or expansion as this method prevents tight lacing at the waist. When there is tenderness of the organ the patient should be put in bed a few days, given a light diet, massaged, etc., before the corset is applied. Careful attention to the general health of the patient is needed in all these cases.

An Interesting Case of Trichinosis.—This case was exhibited by Dr. J. Chalmers Da Costa at the Neurological Society April 22d. The patient is a male, twenty years of age. There is a history or traumatism on the calf of the right leg by a bicycle pedal in August, 1900. After that the patient changed his residence and ate pork about four times a week, but not raw pork, and at times raw beef. Since January 1, 1901, the right gastrocnemius has been swelling and causing pain at night. The thigh is also now involved, the swelling being marked. Examination of a bit of excised muscle shows the presence of very numerous trichinæ. Several blood examinations have been made, the largest number of eosinophiles being 4 per cent. The leucocytes have increased from 12,000 to 20,000. The case is notable for the entire absence of the symptoms usually belonging to trichinosis.

CHICAGO.

Appointment of Dr. Peterson.—Dr. Reuben Peterson, President of the Chicago Gynecological Society, has been appointed Professor of Obstetrics and Gynecology in the University of Michigan, at Ann Arbor, to succeed Dr. J. N. Martin.

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Transfer of Rush Medical College Students.—Hereafter the students of this college will do their first two years' work at the University of Chicago. President Harper has just received a gift of a large sum of money with which to provide the additional facilities needed to accommodate the three hundred students who will be transferred in a body by the new arrangement. The amount of the gift is known to be between $50,000 and $100,000. The name of the donor is withheld. The new arrangement will go into effect on July 1st and will add about three hundred names to the undergraduate roll of the University. The present Freshmen class at Rush will become part of the Sophomore class at the University, and first-year students who matriculate for the medical course will enter the University at once. Several members of the Rush Faculty also will be transferred, and additional teachers will be added to the staff of the University. The Junior and Senior medical classes will continue to do clinical work at the present location, adjacent to the Presbyterian and Cook County Hospitals, and quarters will be provided for them in the building now being erected at Harrison and Wood streets at a cost of $110,000.

Smallpox.—There have 175 cases of smallpox found in this city between November 30, 1900, and April 13, 1901, the period of the present epidemic. Of this number 143 had never been vaccinated. Of the remaining 32 cases, 30 were adults showing faint, poor or irregular scars, claimed to be evidence of attempted vaccination in infancy or early childhood, the most recent being twenty-three years old. Only two out of the 175 cases exhibited typical scars of successful vaccination. Of these 1 was thirty-five years old, vaccinated when a child, revaccinated attempted three years ago without results, vaccine lymph probably inert. The other was forty years old, also successfully vaccinated in childhood, but never revaccinated. These are the only two cases out of the total 175 on whom vaccination was ever successfully attempted, and the most recent of these was more than thirty years ago. This shows conclusively that successful vaccination in childhood and successful revaccination after are the only sure safeguards against smallpox.

Drainage Canal.—Contention of members of the Drainage Board that a reduction of the flow of water in the drainage canal in accordance with the orders of the War Department would threaten local sanitary conditions, were exploded recently by Commissioner-of-Health Reynolds. Dr. Reynolds declared the present dilution of sewage in the canal was beyond present practical sanitary requirements, as only a relatively small portion of the city's sewage was being disposed of through the canal. He added that the reduction of the flow from 300,000 to 200,000 cubic feet a minute would give no occasion for immediate fears as to Chicago's sanitary condition. Charges were made, too, by a number of drainage trustees that the reduced flow problem has been used as a club by those members of the Board who have fought for the passage of bills now pending before the Legislature by which an extra tax was sought by the sanitary district for the work of widening the river. As a result, the bill calling for an additional tax of one-half of one per cent. to carry out this plan is expected to fail of passage.

Investigation of Cook County Hospital.—Complaints and charges have been made that patients are subjected to abuses and unnecessary pain at the clinics at the Cook County Hospital. An investigating committee of thirteen has been appointed and is now listening to evidence for and against the conduct of the institution. Many of the charges are without foundation. We shall await with interest the final report of the investigating committee.

Some Forms of Meddlesome Obstetrical Practice.—At a meeting of the Chicago Medical Society, held April 17th, Dr. J. Clarence Webster read this paper in which he confined himself to three topics, namely, misuse and abuse of antiseptic douches, digital examination, and forceps. Too strong a protest cannot be urged against the indiscriminate and unscientific use of antiseptic vaginal douches in obstetric practice. There has been much difference of opinion among workers as to the normal condition of the vaginal contents, but the causes of their differences have been recently fairly-well elucidated, and at the present time it may be accepted as proven that the genital canal tends to be maintained in a state of asepticity by natural means. Prophylactic douching in pregnancy is unnecessary; neither is it necessary after labor, if the woman is not exposed to contamination by those who attend her during parturition. Given a sterile genital canal, the aim should always be to conduct the labor aseptically. Nothing is more to be deprecated than the routine vaginal examination of parturient women in practice. It is absolutely unnecessary in the great majority of cases. The abdominal examination is ordinarily a sufficient source of information to the physician. There are occasions when vaginal examination is necessary. Then it should be made with as much care as is exercised in the best technic of surgical operations, not in the hasty and careless manner only too frequent in ordinary practice. As regards after-douching, in the majority of cases it is not necessary. Where there is a tendency to the accumulation of blood-clots in the vagina, simple salt solution may be used.

There can be little doubt that since the introduction of anesthesia into obstetrical practice artificial delivery by various procedures

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has become very much more frequent than in the pre-anesthetic days, when interference was avoided as much as possible because of the increased sufferings of the patient. It is too often forgotten that the majority of labors are natural, that they should be interfered with as little as possible, and that interference even by the most skilled hands is always accompanied with risks. Forceps operations are undoubtedly undertaken with too great frequency. The writer gave statistics regarding the frequency with which forceps are used in various European hosipitals.

Gynecological and Obstetrical Significance of Girlhood.—Dr. Henry P. Newman read this paper. He said that the girl as the product of modern civilization is, in everything but bodily vigor, removed by all that is desirable from her aboriginal mother. It is the just aim of our educational system to develop still further her intellectual advantages, but it is also due to her and to the vital interests she represents that we restore to her as far as is possible to modern society the physical advantages of which our multiplication of artificial standards has deprived her. Her muscular activities are curtailed by the adoption of the corset and a more mature and burdensome form of dress; her social instincts are aroused by too early participation in exciting amusements and with it all she begins to experience the nerve-trying influence of the menstrual epoch. If employed as a wage-earner, the conditions of her occupation are even less favorable as a rule. In a very large per cent. of American girls there is greater or less impairment of the menstrual function. Some of the results of improper hygiene of the developmental period of puberty are menstrual pain and nervous exacerbations, chronic congestion, inflammations, extension of the tubes and ovaries, invalidism, difficult labor, trauma in childbirth, sterility. Of most value in the premises is prophylaxis; it is much easier to prevent such evils than to remedy their effects. Mothers and educators, with the intelligent cooperation of the girl herself, can do much to better the conditions. Outdoor life should be as rigidly insisted on for the girl as for the boy. The dress should be as free and unconfined as his. Forced mental development at the expense of the physical should be discouraged. Where the local mischief has already been done the indications are to relieve pain and restore as far as possible the normal relations of the pelvic organs.

GENERAL.

New Boston Hospital.—Provisions for a new hospital for Boston are made in the will of the late George L. Thorndike of East Boston. He directs that after the death of the last legatee under the will, and when the estate exceeds $200,000, it be used to build a hospital. He also gives the city $10,000 in trust, the income of which is to be used to purchase coal for distribution among the widowed women of East Boston.

Doctors' Strike Fails.—The physicians employed by the sanitary authorities at Leipsic, who recently went on strike in a body for better conditions of employment, have been supplanted by other physicians, in need of employment, from Berlin and other cities.

St. Paul Meeting and Yellowstone Park.—Arrangements have been completed for an excursion of the members of the American Medical Association to Yellowstone Park. The Committee of Arrangements has finally succeeded in persuading the officials to open up the park a week earlier than usual in order to accommodate the Association. A special train will be run from St. Paul to the Yellowstone Park and the railroad officials have promised to do everything in their power to make it satisfactory to all concerned. The rates will be very low, but how low cannot at this time be definitely stated. Those who attended the meeting in 1882 will remember with much pleasure a similar excursion that was run at the time, and these will not need to be informed that the one now proposed will be full of enjoyment. Further announcements will be made later. The Yellowstone National Park contains more natural wonders than are to be found anywhere else in the world, and this will be a rare opportunity for our Eastern friends to see what this portion of our Great West possesses. Address editor of MEDICAL NEWS for further information.

Discovery That Means Food.—The *New York Sun* says editorially: "We learn from a competent authority that one of the latest developments in electrothermis is the synthesis of oxides of nitrogen from atmospheric air. The importance of such a discovery to the world at large cannot Crookes, when President of the British Aswell be overestimated. It will be remembered that some years ago Sir William sociation, called attention to the rapid diminution of the world's supply of nitrates and pointed out their enormous importance as fertilizers in increasing the productivity of the soil. Sir William Crookes maintained, and his conclusions have been to a considerable extent accepted by scientific people, that the areas of the earth that could be devoted to wheat culture were rapidly decreasing, and that unless some means could be discovered of making them produce more wheat than they do now, the growing population of the world would within a comparatively short period cause the consumption of this great foodstuff far to exceed the supply of it. Nitrogen, of course, is the base of all fertilizers, and while there are not in existence natural beds of nitrate deposits in anything like sufficient quantity to supply fertilizing material for the purpose indicated, Sir William Crookes pointed out that if a method of "fixing" atmospheric nitrogen could be discovered it would solve the difficulty. If this method has now been found we have before us one of the

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greatest boons that have ever come to the human race. Cyanide of potassium is also one of the practical achievements of this new discovery and its use in the industrial arts is of widespread importance, especially in the economic separation of gold. As for the nitric acid thus made, it is absolutedly pure, of standard specific gravity and is produced for one-eighth of the cost of the nitric acid of commerce. The new century starts out with no abatement of the marvelous speculative energy that so diminished its predecessor. And electrometallurgy is still absolutely in its infancy."

Emergency Building for Ann Arbor.—At least $370,000 is required for the new buildings for the University of Michigan and for improvements in old buildings. A year ago the Board of Regents had plans drawn for a $300,000 Science Hall, which would bring together all branches except chemistry and physics under one roof, but the Auditor-General of State, owing to the small legislative appropriation, now says that the university must have funds before warrants will be honored, as the regents cannot draw upon future appropriations. The general plan of the building will not be abandoned, but to relieve the overcrowded condition of the medical department, a building will be erected near the present one, which will accommodate the bacteriological and histological laboratories. It is to cost $100,000. Work will begin next summer.

American Gastro-Enterological Association.—The fourth annual meeting of this association will be held in Washington, D. C., Wednesday, May 1, 1901. The following program is announced: "Syphilis of the Liver," by Dr. Max Einhorn; "The German Clinics of To-Day," by Dr. J. C. Hemmeter; "Etiology of Hepatic Sclerosis," by Dr. A. L. Benedict; "Treatment of Gastric Ulcer," by Dr. D. D. Stewart; "The State of the Gastric Secretion in Chronic Rheumatism and Rheumatoid Arthritis," by Dr. Frank H. Murdoch; "Some Cases of Tetany," by Dr. Wm. Gerry Morgan; "The Report of Two Cases of Acute Dilatation of the Stomach," by Dr. Julius Friedenwald; "Experiments in Peristalsis," by Dr. Fenton B. Turck; "Some Clinical Studies in Gastric Secretion," by Dr. G. W. McCaskey; "Treatment of Atonia Gastrica and Splanchnoptosia by means of Abdominal Strapping," by Dr. R. Rose; "Hyperchlorhydria," by Dr. John A. Lichty; "Report of a Case of Cancer of the Cardiac End of the Œsophagus at a Distance of Twenty-one Inches from the Incisor Teeth in a Man Five Feet and Three Inches Tall," by Dr. C. D. Spivak, and "Spastic Ileus," by Dr. Edward Quintard.

Louisiana State Medical Society.—The last annual meeting of this Society took place last week in New Orleans, April 18th, 19th and 20th, at the Medical Department of Tulane University. The program was extensive and interesting. Among the subjects discussed were: "Treatment of Fractures of the Long Bones" by Dr. E. D. Martin; "Treatment of Cystitis" by Dr. Chas. Chassaignac; "Proprietary Medicine Prescribing" was ably discussed before the Section on Materia Medica and Therapeutics, by Dr. L. Sexton, chairman; and a paper on "Middle-Ear Complications of Childhood" was read by Dr. O. Joachim; "Lacerations of the Cervix and their Consequences," were among the subjects taken up by the various Sections.

Other papers were: "Over-action of the Heart from Administration of Hyoscin," by Dr. Parsons, of Minden, La.; "Thirty Cases of Acute Lobar-Pneumonia, with Twenty-nine Recoveries" by Dr. Edward D. Newell, St. Joseph, La.; "Otitis Media Neonatorum" by Dr. O. Joachim, New Orleans; "Affections of the Nose and Throat as Factors in Diseases of the Bronchi and Lungs" by Dr. W. Scheppegrell, New Orleans; "Uses of Strychnine" by Dr. J. M. Barrier, Delhi; "Potassium Iodide and Mercury in Syphilis of the Negro" by Dr. A. Guilbeau, Breaux Bridge; "Clinical Test of Sodium Cacodylate" by Dr. E. M. Dupaquier, New Orleans; "Alcohol and Digestion" by Dr. J. A. Storek, New Orleans; "Vital Statistics in Louisiana" by Dr. G. Farrar Patton; "Science and Pseudo-Science in Medicine" by Dr. T. S. Dabney; "Symptoms of Extra-uterine Pregnancy" by Dr. C. J. Miller; "Contagious Diseases" by Dr. C. L. Horton; "Ptomain-poisoning in Children" by Dr. L. G. Le Beuf; "Spinal Analgesia" by Drs. S. P. Delaup and F. W. Parkham; "Disinfection from a Practical Point of View" by Dr. John J. Archinard; "Malarial Polyneuritis" by Dr. C. J. Gremillion and "A Case of Abdominal Pregnancy" by Dr. A. G. Sterling.

Director of the Bureau of Bacteriology and Pathology.—Commissioner Daniel Lewis of the State Department of Health has appointed Dr. George Blumer of the Bender Laboratory of Albany Director of the Bureau of Bacteriology and Pathology, which is a new department.

Columbia Honored.—Columbia has been honored by the election of two more members of its faculty to the National Academy of Sciences. The membership is limited to one hundred. Last year of the four members elected two were Columbia men. This year the Columbia professors chosen are James McKeen Cattell, Ph.D., professor of psychology and anthropology and T. Mitchell Prudden, M.D., LL.D., professor of pathology in the College of Uhysicians and Surgeons.

Medical Jurisprudence Society.—The Society of Medical Jurisprudence held its eighteenth annual meeting and dinner at the Waldorf-Astoria last Saturday. Toasts were responded to as follows: Judge William J. Gaynor, "The Future of the Municipal Government and the Doctor and the Lawyer in It"; ex-Attorney General John W. Griggs, "The United States Supreme Court"; the Rev. Father Thomas Ducey, "The Mission of Justice and Mercy"; Tom L. Johnson, "Com-

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ing Issues"; Judge Henry A. Gildersleeve, "Thoroughness in the Profession"; William M. Polk, M.D., "Lawyer and Doctor"; Charles W. Dayton, "Facts and Expert Testimony"; Martin W. Littleton, "From the Diary of a Public Prosecutor." The President, Frank Ferguson, M.D., presided.

Obituary.—Dr. Almon V. Belding, ninety-four years old, of Rochester, N. Y., died on Thursday night in that city. He was born in Phelps, N. Y., and came to Rochester in 1867.

Professor Kohlstock, the rinderpest and cholera investigator, died last Monday at Tientsin. He died from disease contracted during his investigations.

Dr. H. S. Scruggs, one of the best-known physicians of Tennessee, was assassinated April 17th, while returning from a professional call. Dr. Scruggs was a school director and had trouble with the patrons of a school on account of an order promulgated requiring parents to send written excuses to teachers when their children were absent.

Dr. Frederick J. Brockway, late of 153 West Seventy-third street and 437 West Fifty-ninth Street, New York City, died of meningitis at Brattleborough, Vt., this week. Dr. Brockway was born in South Sutton, N. H., February 24, 1860. He received the degree of Bachelor of Arts from Yale, and his medical degree from the College of Physicians and Surgeons, in which institution he was an Assistant Demonstrator of Anatomy as well as Secretary of the Faculty. He was a member of the American Museum of Natural History, the New York Academy of Medicine, New York Academy of Sciences, the Alumni Association of Roosevelt Hospital, the New England Society, and the New York Athletic Club. He was a son of John G. Brockway of Contoocook, N. H., and a nephew of H. H. Brockway, the proprietor of the Ashland House, this city. A widow and two daughters survive him.

Dr. Louis Philip Fontaine died at his residence, No. 109½ East Fortieth Street, New York City, last week, from Bright's disease, after an illness of several months. Dr. Fontaine was born in France, and came to this country forty years ago. He was sixty-nine years old. He was married, but childless.

Dr. Joseph S. Carradine, who died in East Orange Tuesday, and whose office was at 45 West Twentieth Street, came from a Mississippi family and was graduated from the Pennsylvania Medical College in 1858. He was a member of the County Medical Society and the County Medical Association, and was a brother of the Rev. Dr. Beverley Carradine, who, while pastor of a prominent Methodist Episcopal Church in New Orleans, was among the first to raise his voice in denunciation of the Louisiana Lottery and start the crusade which finally compassed the fall of that corporation.

Dr. Edward Watts Morris, an eminent physician in North Alabama, died at Birmingham Tuesday, at the Morris and Lumpton Infirmary, of pneumonia, aged thirty-six years. He was a native of Virginia, and graduated in medicine in that State, practising first in Richmond. He went to Birmingham sixteen years ago.

CORRESPONDENCE.

OUR LONDON LETTER.

[From Our Special Correspondent.]

LONDON, April 13, 1901.

THE REFORM OF THE ARMY MEDICAL SERVICE—CAUSES OF THE DOCTORS' DISCONTENT—THE ANTAGONISM OF LORD WOLSELEY, THE DUKE OF CAMBRIDGE AND SIR REDVERS BULLER—THE UNPOPULARITY OF THE SERVICE—MILITARY TITLES FOR MEDICAL OFFICERS—THE COLLAPSE IN SOUTH AFRICA—CRITICISMS ON THE ROYAL ARMY MEDICAL CORPS—A "DRASTIC REFORM" PROMISED.

ANOTHER matter now exciting keen interest in the profession here is the question of reform of the medical service of the army. For many years past those who knew the real state of things have foretold that in a war of any magnitude our medical service must inevitably break down. Again and again it has been urged on the War Office that the medical staff was undermanned and consequently overworked, and that the officers had no opportunity of keeping themselves abreast of the progress of medical science. But the War Office paid no heed to these warnings, and the state of the service went from bad to worse. The military authorities persisted in regarding the doctors as civilians whose relation to the army, as Lord Wolseley elegantly put it, was that of "camp followers." The late Commander-in-Chief lost no opportunity of showing his contempt for medical officers—a feeling all the more remarkable in him that one of his own brothers was an army doctor. At a parade in Dublin when the men of the Army Medical Staff with their officers stood before them with drawn swords in accordance with military regulations he angrily ordered that the weapons should be sheathed as "these men are not soldiers." He said in his "Soldier's Pocket-book" that medical advice is a good thing—when it is asked for; and that it might not be thrust upon him in Egypt he stationed his Principal Medical Officer as far as possible away from headquarters. Lord Wolseley in the same manual scoffs at the idea of having a special Sanitary Officer, whom he calls a "fifth wheel to the coach."

The disastrous epidemic of typhoid fever among the troops in South Africa may fairly be regarded as the practical outcome of this attitude of mind in the late Commander-in-Chief. Had there been a Sanitary Officer with Lord Roberts in his march to Pretoria, it is probable that the outbreak might have been checked at the beginning, or at any rate prevented from becoming the devastating scourge which, more than the "slim-

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ness" of the Boers or the blundering of our generals, has been the cause of the prolongation of the war.

The Duke of Cambridge, who was Commander-in-Chief before Wolseley, was also unfriendly to the doctors. It is on record that His Royal Highness's life was saved in the Crimean War by an army surgeon who by a deed of the most daring courage extricated him from a mass of Russians by whom he was surrounded. The Duke's nerves were so shaken by his adventures on the field of Inkerman that he soon after got leave to attend to "urgent private affairs" in England. The incident referred to perhaps created in his mind an unpleasant association with army doctors. At any rate he always showed a special dislike of them afterward. Before a Royal Commission which inquired into the state of the service some years ago, the Duke's language with regard to them was of such a character that it was not considered advisable to publish it in the Report. Some of the evidence given by Sir Redvers (or Reverse) Buller on the same occasion was also suppressed. The Charon of the Tugela is reported to have expressed the opinion that it is right that medical officers should be systematically blackballed at military clubs, as they are unfit to be admitted to the company of the noble warriors who growl and grumble and fight their battles o'er again in those establishments.

This being the spirit which animates the War Office in its dealings with the medical officers of the army, it is scarcely to be wondered at that the service has become more and more unpopular with the younger members of the profession, till now there are practically no candidates. Such as do present themselves at the periodical examinations for admission to the Service are for the most part, to use a phrase of John Bright's, the *residuum* of the medical schools. This has been the case for a long time past. Twenty-five years ago the service was left almost entirely to men from the Irish and Scotch schools; the feeling of English students was like that of John Abernethy as to the corresponding service of the navy. When Richard Owen had finished his studies he went to take his leave of Abernethy who asked him what he was going to do. On Owen's replying that he was going to sea, Abernethy exclaimed "Going to sea! As well go to the d——l!" No one with any chance of making a livelihood in civil practice would have dreamed of entering the army. The result was that the service was recruited from a class of men who were no credit to their profession. Army doctors became a byword for ignorance. I remember one candidate who at his clinical examination was puzzled by a case of torticollis. He afterward asked one of the resident officers of the hospital what it was, and on being told said he supposed the disease was called after the great Colles of Dublin! Cases of the simplest character used to be sent to general hospitals by commanding officers of regiments, with the explanation that they were beyond the professional skill of the army doctors. All this was long before the relations between the combatant and the medical officers became embittered by the demand of the latter for military rank and titles. The pay and status of the army doctors were gradually improved by successive concessions—all wrung from the War Office by the force of circumstances—and three years ago the late Secretary of War, Lord Lansdowne (himself by the way a descendant of Sir William Petty who was Physician-General to Cromwell's army in Ireland) granted the titles which had been obstinately refused by the military authorities before. The army doctors were made officers of a Corps (Royal Army Medical Corps) with purely military titles and with command of the men of their Corps. This satisfied the doctors for a time and it was hoped that the service would attract a better class of men. The medical Colonels and Majors, however, were looked upon as counterfeits by the military officers, and many civilian practitioners did not care to see their brethren masquerading in plumes matching ill with the sober cloth of their profession.

All this must be taken into account in estimating the extent to which the army medical service has broken down in South Africa. The jealousy which the military titles have excited has added venom to the attacks which have been made on its work. It is clear enough that many of its critics are rejoiced that it has failed, and this unpatriotic and unphilanthropic sentiment is founded on a mean spite which betrays itself in many anonymous letters which have appeared in the papers as well in the dithyrambic maledictions of Mr. Burdett-Coutts. The true inwardness of this gentleman's onslaught is that he is the spokesman of a band of society ladies who went out to South Africa as ministering angels, but had their wings tied up with red tape, whereat they not unnaturally felt aggrieved. To avenge their wrongs they instigated a "campaign of calumny."

In Parliament members of the Opposition have found in the misfortunes of the Royal Army Medical Corps many weapons that could be used with effect against the Government. The political element must especially be allowed for in determining the exact significance of Sir Walter Foster's criticisms of the medical management of the war. Soon after the beginning of the campaign he patriotically offered to go out to South Africa as a Sanitary Commissioner, and he is inclined to attribute the calamities that have occurred to the refusal of his offer.

When the most liberal discount, however, has been made for these various sources of fallacy, the fact remains that the medical service of the army has broken down, and that this is not fully to be explained by undermanning or even by military titles. The system is bad, promotion being almost entirely by seniority, and initiative being everywhere paralyzed by red tape. Moreover, the standard of professional skill among the officers of the R. A. M. C. is far from what is should be.

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Mr. Broderick the present Secretary of State for War was promised a "drastic reform" of the service. It is very doubtful, however, whether he will succeed, for the tone of his utterances on the subject of military titles and other points has so far been distinctly unsympathetic. He is a self-confident man and is credited with the intention of working out a scheme of reform entirely his own. But he will have to reckon both with the medical profession, which will accept no scheme detrimental to its dignity, and with the public which is determined to have a medical service adequate to the needs of its soldiers. One thing is certain, and that is that if the government wishes to get medical officers of the right sort it must pay them liberally, give them the position and authority required for the efficient discharge of their duties, and provide that they shall have abundant opportunity and ample encouragement to improve their knowledge and perfect their skill.

TRANSACTIONS OF FOREIGN SOCIETIES.

German.

CHLOROFORM-OXYGEN COMBINED ANESTHESIA—PRIMARY SYPHILITIC CEREBRAL ENDARTERTIS—CHRONIC ARTHRITIS — NEURITIS — PHRENIC HERNIA—POSTMORTEM CÆSAREAN SECTION—TYMPANIA UTERI—INHALATION DISEASES.

ARONSON explained the recent favorable results obtained by Wohlgemuth in giving combinations of oxygen and chloroform for anesthesia. At Zuntz's laboratory Aronson has himself during the past several years made use of such a combination in experiments on animals. Pushed to the fatal point, the oxygen appeared not to have the least possible influence in saving the animals. On theoretical grounds Zuntz has himself condemned its use in practice. The reason Wohlgemuth has had better success lies in the fact that he delivered the oxygen under pressure, thereby securing its better combination with the chloroform. Further experiments show that compressed air similarly combined with chloroform is just as efficacious.

HEUBNER presented the brain of a two-and-a-half-year-old child which had presented the symptoms of a cerebral paralysis and shown a recurrent right-sided muscular paresis. The lesion was a vast primary syphilitic endarteritis affecting the base of the brain particularly, and causing as a secondary phenomenon through faulty nutrition a microgyria of one hemisphere which did not have as accompaniments any marked softening or gummata. During life there was apparent a right-sided syphilitic retinitis of hereditary origin. He also presented an eleven-year-old girl who presented a general chronic arthritis of all the joints, practically, which had gone on to more or less ankylosis, even of the vertebral column and caused retarded and imperfect development of the under jaw. The etiology appeared to depend entirely upon choreic attacks in earlier life. His next patient was a child ten years old with a general neuritis and paresis of the extensors of the feet without any affection of the sensibility. Here again choreic intoxication was very probably the cause.

WIDENMANN brought before the meeting a forty-year-old man who had had since early youth a hernia through the diaphragm into the left thorax. It appeared to give him no especial symptoms except that during the past year, he had suffered from temporary signs of incarceration. Examination showed part of the left lobe of the liver, and almost all of the stomach herniated into the thorax thereby causing physical signs of pneumothorax. What the cause of the hernia had been, it was impossible to determine.

GESSNER, at the Aertzlicher Bezirksverein zu Erlangen, January 28, 1901, described an example of postmortem Cæsarian section which resulted in a living offspring. The primipara had had a large amount of albumin in the urine during her pregnancy and died during the initial eclamptic seizure, which itself had not been seen by him. Within ten minutes after death the section was done and a very deeply cyanosed child obtained. After about two hours' hard work it was fully resuscitated and left in good health. The emptied uterus contracted down a great deal and really forced the placenta up into the wound. The uterus and placenta were removed and hardened. On longitudinal section it was found that the placenta in this case did not separate centrally from the uterine wall, but though bulging forward was still firmly attached. This is contrary to the teaching of many authorities, who hold a central separation is the first step toward the discharge of the afterbirth.

The same speaker read the paper of the evening on tympania uteri. This he stated is a condition which the text-books are apt to neglect or treat lightly and too indefinitely. Its prognosis based upon the old syndromata for diagnosis and the old statistics is very poor. Naturally the condition is far more common than was once supposed and practically only the frank clear cases are those which are recorded, because others often escape diagnosis altogether. The old belief that tympania uteri depends upon the entrance of bacterium-laden air into the uterus is according to the researches of Gebhard erroneous. The underlying factor is infection by the bacterium coli. Other observers claim that anaerobic pus may also be the cause. The first step of this condition appears to be foul-smelling or putrid liquor amnii. The clinical picture is a various one. In the majority of cases the fever is a purely absorption fever, due to the entrance into the system of the products of cell activity and decomposition of the elements of the liquor amnii. Consequently it appears a variable time after the swelling of the organ and usually disappears when it is emptied and cleansed. In a minority of the cases one finds various severe recurrent febrile manifestations throughout the puerperium. Such are due to infection of the genital tract with the pyogenic micro-organisms from without, in addition to

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those already present in the uterus. Supposed air-embolism of the uterus had best be ascribed to sapremia with anaerobic germs as the cause. Feeble pains may easily appear in tympania uteri, especially when the distention by gas has been at all marked. In such patients we may look for atonia uteri in the puerperium, particularly just after delivery. Bad cases of this condition are to-day much more rare, because the diagnosis is made at an earlier date and the causes are better known. Tympania is more common among primiparæ because of their aptitude to carry the child over time. A narrow pelvis contributes and an early rupture of the membrane definitely exposes the mother to it. At the present time the prospects for the mother are better than formerly, in the ration of 50 per cent. of deaths under the old statistics to about 12 per cent. in the new. Similarly the child is better off. Neither the height of the fever nor the pulse-rate permit of any conclusions as to the ultimate outcome, but a decidedly unfavorable sign is the occurrence of chills early in the onset of the disease, because in such cases severe sickness during the puerperium is likely. The treatment of tympania uteri is to be begun just as soon after delivery as possible. Formerly vigorous intra-uterine douches were in vogue, but have latterly been abandoned because they appear to induce chills, which forerun serious complications.

SAENGER, at the Medic. Gesell. zu Magdeburg, January 16, 1901, deliberated on the cause underlying the diseases usually ascribed to the inhalation of dust. The penetration of dust-particles in the deeper and deepest air channels of the whole respiratory tract must be a very difficult matter indeed, because there are so many normally disposed bars to it. The bronchial tree itself is composed of many canals variously and complexly curved upon themselves and placed more or less at angles to each other, while the caliber steadily decreases beginning with the trachea. To assume that dust-particles move along the axis of such a tortuous system of passages, whether the force be expiratory or inspiratory, is undoubtedly an error. As a matter of fact the dust probably impinges more or less constantly upon the walls at each turn and more especially upon the convexity of the curves. Such a path for it is therefore a resultant of the bend in the canal itself and its effect upon the dust-bearing currents. Thus it happens that the vast bulk of the dust in an air current rapidly comes into contact with the convexities of these tortuous channels and in a very devious route practically all of it meets the walls and, if these are moist, of course adheres when, as in the lungs these turns and angles are wonderfully multiplied, it soon follows that all the dust remains clinging to the walls. In a very similar way a long gradually narrowing tube tends to promote a deposit of dust upon its walls out of a current of air passing through it. From theoretical considerations and drawings and actual experiments the author enunciated the theory that in the lungs on account of the arrangement of the bronchial tree and the natural moisture of the mucosa dust does not penetrate very far. To substantiate this fact there are the observations that in those exposed to dusty air, the vast majority of the dust particles remain in the mouth and in the walls of the larynx. Similarly in the nose when its cavity is normally arranged a very large portion of the dust will be taken up. In spite of all these considerations the author does not deny the fact that dust does occasionally reach the terminal bronchi and the alveoli of the lungs. This he was able to demonstrate in an experimental way and describes the causes as follow. With abundance of dust and an unhealthy, superabundant, rather watery bronchial secretion and with at the same time an excitement of the respiratory function, in such a manner that the inspiratory effort is stronger than the expiratory, it slowly transpires that the dust-laden air charges the secretion, and this is by degrees drawn more and more into the smaller and smaller bronchi until finally the alveoli are reached.

SOCIETY PROCEEDINGS.

NEW YORK NEUROLOGICAL SOCIETY.

Stated Meeting, Held April 2, 1901.

The President, Joseph Collins, M.D., in the Chair.

Recurrent Oculomotor Palsy.—Dr. William M. Leszynsky presented a woman, twenty-nine years of age, whom he had first seen four months ago. When six years old she had begun to have attacks of headache confined to the right temporal and supraorbital regions, and invariably accompanied by vomiting. The attacks occurred every five or six weeks. At her twelfth year the customary paroxysm had been associated with ptosis of the right eye, from which she had recovered in two weeks, the migraine continuing to recur as before. The second attack of oculomotor paralysis had occurred in her nineteenth year, with the same pain and vomiting. There were partial ptosis, diplopia and inability to look upward with the right eye. She had improved in three weeks, but the eye did not move upward as well as before for a few months and then there had been complete recovery of motility. The third attack had occurred in her twenty-second year, and had been characterized by almost complete ptosis, outward deviation of the eye and diplopia. She had been obliged to keep the eye covered for three months, but had recovered in about a year. The fourth attack had been two and a half years ago and the fifth only three weeks ago. She now complained of the eye turning outward and of her inability to look upward. The periodical headaches bore no relation to menstruation. Examination showed slight drooping of the right upper eyelid, paralysis of the superior rectus and paresis

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of the inferior and internal recti. The right pupil is 5 mm. in diameter and rigid, while the left measures 3.5 mm. and reacts normally. Vision is normal in both eyes, and the fields and fundi are normal. She is anemic and neurasthenic. The family history was unimportant, and her ocular condition had practically remained unchanged since the first examination. The speaker said that the most interesting features were the comparative rarity of this type of oculomotor palsy and its pathology. Only two authentic cases of recurrent oculomotor palsy had been studied postmortem, one by Richter, in 1887, and the other by Karplus, in 1895. In the former, a fibrochondroma existed in the course of the nerve trunk at the base of the skull, and separated but did not destroy the nerve fibers. In the other case, there was a neurofibroma of the motor oculi at the base. In many of the reported cases complete recovery had taken place, but in others the paralysis had gradually increased during the intervals, and had ultimately become permanent. Dr. Leszynsky said that he had seen four other cases. In the first, there had been complete paralysis of the third nerve with a clear history of accompanying migraine. Recovery had been spontaneous.

Dr. B. Sachs said that these cases were extremely rare, though he had been fortunate enough to see two in the past six months. One had been in a boy of four years who within a year had had two distinct attacks of oculomotor paralysis of one eye. He had recovered in a few months from the first attack. The family history was entirely negative. He understood that improvement had followed the second attack. There had been apparently no migraine here.

Dr. Leonard Weber said that he had presented a case of this kind to the Society twelve or more years ago. The man had oculomotor palsy on the right side. He had watched the case for a number of years. After about two years there had only been a little ptosis remaining. After a course of iodine the man had greatly improved, and had ultimately died of pulmonary tuberculosis.

Dr. B. Onuf said that he had presented such a case to the Society one year ago. The patient had since been given iodide of potassium in increasing doses, and had moved to the country. The attacks had become shorter and less severe. He did not believe that there was always a lesion of the oculomotor alone. His own case was undoubtedly one of migraine.

Dr. Leszynsky said that a very novel theory had been brought forward regarding this paralysis occurring in connection with migraine. It had been assumed that there is an increased vascularity of the hemisphere during the attack of migraine, causing a disturbance of the function of the third nerve.

Malignant Tumor of the Shoulder Perforating the Spinal Canal.—Dr. Leonard Weber read this report and presented the specimen. The subject was a man of thirty-one whom he had first seen in 1891. He had presented the usual symptoms of a recent syphilis, and had been treated for this with improvement. In 1894 he had returned because of a perichondritis of the cartilaginous portion of the nasal septum. At this time a small movable tumor, the size of a cherry, was noted in the right shoulder. This was supposed to be gummatous. The tumor diminished under mixed treatment, but a small nodule remained. In June, 1900, the man had sought relief because of a hard, solid and almost immovable tumor of the shoulder, which he said had developed shortly after a blow on the shoulder received one year previously. No benefit had resulted from rapidly increasing doses of iodide or from the biniodide of mercury. Three months later a portion of the growth was submitted to microscopical examination, with the result that it was declared by two pathologists to be a round-cell sarcoma. An effort had then been made to remove the growth, but this had been found impracticable. Injections of arsenite of soda and carbolic acid had been given for a time, but without benefit. On December 3d he had been admitted to St. Mark's Hospital because of a suddenly developed paraplegia. Bed-sores soon formed and he became septic, and died on February 11, 1901, from exhaustion. The tumor and a portion of the spinal cord were removed postmortem. The tumor was found to lead into the spinal canal. The cord symptoms in this case were due to hemorrhage and degenerative myelitis. As to whether the little tumor first felt in the shoulder was specific, the speaker said that this was probable, and added that the case emphasized the desirability of removing apparently innocent tumors at an early stage.

Cerebellar Apoplexy with Autopsy.—Dr. Weber also made this report. The patient was a man, twenty-nine years old, living amid the most unsanitary surroundings. The urine had a specific gravity of 1,024, and contained a slight trace of albumin and some hyaline and granular casts. There was no history of syphilis. He had been sick for about two months before coming under observation on September 11th. There was constant headache, but no sensory or motor disturbances. The diagnosis seemed to lie between tumor, hemorrhage and abscess of the cerebellum. On account of the length of time that he had been sick abscess seemed to be more probable than hemorrhage. He died in a few days, and at the autopsy the entire venous system was found engorged with blood. There was marked hypertrophy of the left side of the heart; no endarteritis of the arch of the aorta; both kidneys were slightly enlarged, the cortex showing proliferation of connective tissue in patches and presenting the gross appearance of interstitial nephritis. No opportunity was given for

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microscopical examination. In the substance of the right cerebellar hemisphere was an accumulation of both recent and old coagula, and the apoplectic focus had ruptured into the fourth ventricle. He had seen one case of cerebellar apoplexy in a girl of twenty-five years, who had an unsuspected and untreated syphilis.

Tumor of the Optic Thalamus.—Dr. Joseph Fraenkel presented this specimen, which had been taken from a patient whom he had shown to the Society in January, 1898. At that time the boy had had the cardinal symptoms of brain tumor and a paralysis of the face which was very marked when there was any emotional disturbance. There had been no hemianopsia. The boy had been discharged from the Montefiore Home, and had done fairly well for two years and a half. When readmitted, there had been very nearly the same symptoms as before, and in addition a much more marked unsteadiness of gait and a disposition to fall to the right side. Dr. Fraenkel said that he had been led to think it possible that the tumor was after all situated in the cerebellum. On removing the brain at autopsy, a very old cyst was found on the fourth ventricle, the exact nature of which had not yet been determined. There was also a large tumor occupying the right optic thalamus.

Fracture Dislocation of the Cervical Spine.—Dr. Edward D. Fisher reported this case and presented the specimen. The patient was an acrobat, twenty years of age. While turning a somersault from the shoulders of a companion he had fallen a distance of about five feet, and struck on his head. He was instantly paralyzed. When seen by the speaker that evening there had been complete anesthesia from below the nipple extending down the arms to the armpit, and on the inner side of the arm and forearm, and taking in the ring and little fingers. There was complete loss of motion and paralysis of the bladder and rectum. The reflexes, superficial and deep, had been completely lost. Permission could not be obtained for operation until three days later, and in the meantime there had been a temperature range of 104° or 105° F. The operation had had been done by Dr. B. F. Curtis under cocaine anesthesia; and the laminæ of the fifth, sixth and seventh vertabræ removed. No evidence of injury to the cord could be discovered. The man died three days later. The autopsy had revealed a fracture of the body of the seventh vertebra, no subdural hemorrhage, but marked softening of the cord at the seventh cervical segment. There was very little gray matter left in the cord at that level, and there was very little evidence of hemorrhage into the cord proper. A very prominent symptom had been the extreme pain experienced along the course of the nerves. The classical distribution of the paralysis and the complete loss of reflexes were interesting features.

Dr. B. Sachs remarked that twenty years ago it had been pointed out that a very significant symptom of tumor of the optic thalamus was this peculiar facial palsy made visible by emotion.

Dr. Leszynsky said that he had seen recently a case of dislocation in the dorsal region with loss of reflexes and paralysis below the seat of injury. An operation had been done, but death had followed. The autopsy had revealed a complete transverse destruction of the cord.

Dr. Fraenkel said that some time ago he had presented a paper to the Society on this matter of the reflexes, and had continued to give a good deal of attention to this subject. He would assert that the skin reflexes are not lost in total destruction of the cross section of the cord, and the relation of the tendon reflexes to the skin reflexes should enable one to decide whether or not the cord has been completely destroyed in this manner. When the compression of the cord was sufficiently great to interfere functionally with conduction upward and downward, the tendon reflexes are lost while the plantar reflexes are exaggerated. When, however, there is structural disease of the entire cross section of the cord, the plantar reflexes are also lost. This he considered a valuable point in the differential diagnosis. He had reported two cases with autopsies in which there had been loss of reflexes without total abolition of the conduction in the cord.

Dr. Leszynsky said that in the case he had just referred to all forms of reflexes had been abolished, both superficial and deep.

Brain from a Case of Epilepsy Operated Upon.—Dr. H. L. Winter exhibited this specimen, which had been taken from a child of seven years. All of the head measurements were small; there was no paralysis of any of the muscles. The child was imbecile and had epileptoid seizures which appeared to be general. Dr. Stewart had operated upon the child at Bellevue Hospital. On reaching the brain a large cyst cavity had been found in the left hemisphere. The child died seven days later with a high temperature. The hemisphere was found to have been nearly destroyed by the cyst, and the convolutions were not well marked. The interesting feature was the almost complete destruction of the hemisphere without any paralysis. The fibers of the medulla were found not to decussate as freely as usual.

Abscess of the Brain.—Dr. Joseph Collins presented this specimen. It had been impossible to make a localizing diagnosis. The patient was a man, twenty-seven years of age, a tailor by occupation. Two weeks before admission he had been suddenly seized with severe and more or less paroxysmal headache distributed over the whole head. The pain was almost intolerable for six days, and then he became dizzy and had projectile vomiting without nausea. There had been some whistling sound

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in the right ear. When seen by the speaker, four days after coming into the hospital, there was double choked disk, but no hemianopsia. There was no leucocytosis, although the hemoglobin percentage was 36. Apparently there was no impairment of hearing. The knee jerks were normal. There was no evidence of palsy or of spasm in any part of the body, and no symptoms referable to the special senses. The patient died four days later of exhaustion. The autopsy revealed an abscess situated in the right hemisphere, and involving particularly the posterior end of the inferior parietal lobe and of the superior parietal lobe. The cuneus itself was partly implicated. The tit-like extremity of the cuneus, it should be noted, was entirely intact on the side of the abscess cavity, and if the optic radiations are not cut across it would not be difficult to explain the absence of hemianopsia. A diagnosis had been made of abscess of the right superior parietal convolution.

Dr. Fisher said that both the superficial and deep reflexes had been absent in his case, and it was because of this that he had inferred that there was complete destruction of the cord. The operation had been undertaken to relieve the intense pain.

HARVARD MEDICAL SOCIETY OF NEW YORK CITY.

Stated Meeting, Held March 21, 1901.

William B. Coley, M.D., Chairman Pro Tem.

The paper of the evening was read by Dr. Charles Schram. Its title was:

Cerebral Apoplexy, Its Relation to Testamentary Capacity.—It will appear in a subsequent issue of the MEDICAL NEWS.

Cerebral Apoplexy and Property Conveyance.—Dr. Reynold W. Wilcox said that he had an experience with regard to cerebral hemorrhage and the exercise of legal intellectual capacity some four or five years ago. The patient, a man of over fifty, was brought into St. Mark's Hospital in a state of coma as the result of cerebral hemorrhage. The right side of the face and the right arm and right leg were paralyzed. There was also aphasia. The patient recovered his speech only sufficiently to give forth alternate volumes of profanity and obscenity. There was a history of previous alcoholism extending over a long time. For eight or ten days after his admission to the hospital the patient's condition remained about the same. Gradually he recovered some motion in his right leg, but practically none in his right arm. His power of speech did not improve. On the eighteenth or nineteenth day after the stroke he was supposed to have executed a bill of sale of his business down on the East Side of New York City to a woman to whom he was not related, but with whom he had been living for some years. On the twenty-fifth day after his stroke the patient became even more violent than usual and had to be removed to Bellevue where he died three days later. At the autopsy a large hemorrhage was found in the brain and the cerebral tissue was found to be badly torn as the result of the violence of the hemorrhage. It was evident that the original hemorrhage had been very severe and that the consequent pressure upon the brain was sufficient seriously to hamper all higher functions.

Legal Decision as to Capacity.—The patient's sister as executrix of his estate took the matter of the bill of sale into court, claiming that the patient had not been capable as far as his mental capacity was concerned of properly executing any such instrument. Dr. Wilcox was asked to testify as expert in the case. As the patient's right hand was paralyzed at the time when he was supposed to have executed his signature, as he understood very little of what was said to him, and even that without much assurance of his mental clarity, and as he was constantly in an excited condition during his stay in the hospital, the only expert opinion possible was that the patient was not legally capable of making the transfer. After consultation on the part of the defendant's counsel, it was decided to withdraw the suit.

Contracts and Wills.—Dr. Charles Schram in closing the discussion said that the courts are much more lenient in their decisions as to testamentary capacity, than as to the mental capacity necessary for making contracts. The evident purpose of the law is to make it as easy as possible for a man to convey his property to the heirs whom he desires to have it. On the other hand, the formalities connected with contracts are surrounded with many technicalities intended to protect the weak-minded from the fraudulent efforts of shrewd friends or enemies.

While motor aphasia is accompanied by least intellectual disturbance, there are other mental conditions which often develop as the result of the lesion causing the motor aphasia. A man may be perfectly dumb, or unable to utter but a few simple words, and yet be perfectly able to understand words when written or to even to show by writing himself that he understands words spoken to him and can convey his thoughts. In these cases, of course, he is perfectly responsible. In a number of cases the courts have decided that wills made under such circumstances are perfectly valid. With regard to the question of contracts, there are not many decisions in this matter. There is no doubt, however, that courts would require more detailed evidence as to the mental capacity of a patient when a contract's validity was in question than when only a will was involved.

The Physician's Duty.—The physician's safeguard in this matter is to have other doc-

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tors see the patient and to have a detailed account of his actions carefully written down so that the Court can judge for itself of the testator's or contractor's capacity. Where there is much wealth involved other physicians should be permitted to see the patient independently, and be allowed to form their judgment without knowing the opinion of other experts in the case.

Ascites and Malignant Abdominal Tumors.—Dr. Henry C. Coe said that he has had five or six cases in the last six weeks in which the question of a connection between ascites and malignant tumors, or the development of malignancy in tumors that were previously benign has been one of the elements of diagnosis. He has been accustomed to consider ascites as a rather important symptom, or at least, suspicious sign of malignancy. One of his first cases was a woman of seventy who had suffered from a series of gynecological troubles, most of them connected with an old abdominal tumor. She developed ascites, which became so annoying as to require tapping. Her respiration was so much interfered with that when the ascites began to redevelop, operation was considered. Dr. Coe thought that under the circumstances operation was contra-indicated. He feared to find a rather extensive carcinomatous condition. He refused at first to operate, but was practically forced to do so by the family physician. He found a large adenocystoma of the ovary which he removed and the patient made a good recovery.

Ascites in Benign Tumors.—Dr. Coe's second patient the woman of forty-five, colored, who developed ascites after running down in health and becoming emaciated. The underlying conditions seemed surely to be malignant. On operation a hard tumor of the ovary was found with a number of nodular growths on the intestines. These nodules seemed to be surely secondary malignant growths and the whole picture gave the impression of cancer. Some of the smaller tumors occurred on the periphery of the large tumor making an interesting, knobby picture. The smaller growths proved to be mainly tubercular enlargements of glands and tuberculous nodules.

In a third case an abdominal tumor had been present for fifteen years. Ascites developed rapidly and some evening temperature was noted. The diagnosis was either malignant tumor or a supprating fibrocystoma. The operation showed that the tumor was a fibrocystoma, the contents of which had turned to pus These cases serve to show that it is extremely difficult to decide in any given case whether malignancy is present in the case, or not.

In a fourth patient, aged thirty-six years, ascites had developed about two months before she came under Dr. Coe's observation. This developed rapidly and as a consequence produced marked dyspnea. For this she was tapped several times. The operation showed that she was suffering from double cystoma of the ovaries, the tumors being papillomatous in character. The patient made a good recovery and has continued well ever since.

Significance of Ascites.—Dr. Egbert H. Grandin said in the discussion that the presence of ascites is not necessarily significant of malignancy. When even benignant tumors persist for a long time they often cause the development of copious ascites. Tuberculosis of the peritoneum is usually accompanied by ascites. This is prone to occur in corpulent women, in whom the presence of tuberculosis may not be suspected. As a rule the absence of distinct tumor, taken in connection with ascites, means tuberculosis. Dr. Grandin has seen some cases in which malignant disease of the ovaries finally led to the diagnosis of ascites and this brought the patients to the surgeon. As a rule, however, ascites cannot be spoken of as in any sense pathognomonic of malignancy.

Secondary Carcinoma and Ascites.—Dr. William B. Coley said that the development of a secondary cancer of the intestine, as when, for instance, there is metastases from the breast, often produces ascites. On the other hand, in the cases that have been under his observation, primary cancer of the intestine has not produced ascites. Ascites is more frequently seen with tuberculosis of the peritoneum than with any other condition. The presence of ascites should usually lead the surgeon to suspect the presence of tuberculous glands in the abdomen or even a more extensive tuberculous process.

Mechanism of Ascites.—Dr. George E. Brewer said that ascites is usually caused by the involvement of a gland in some pathological process, which causes it to enlarge and press upon the superior or inferior mesenteric vein. Enlarged glands are usually due to malignant disease or to tuberculosis. The presence of ascites, then, usually indicates either cancer or tuberculosis. In most cases, however, the enlargement of glands is apt to be tubercular.

Teratomata.—Dr. Coley presented specimens of a teratoma of the testicle which had been removed from a patient twenty-seven years old. No enlargement of the testicle was noticed up to eight months before the operation. There was no injury in the history and no tuberculosis in the family. There was no suspicion and no history of syphilis. The tumor grew slowly and gave no pain. At the end of eight months it had grown to the size of an orange. On removal it proved to be a teratoma of the testis, evidently deserving this name, since in it could be demonstrated all three of the germinal layers of the original embryonic tissue—epiblast, hypoblast, and mesoblast. At times, of course, such tumors prove to be malignant. When a number of

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such cases are followed, it is surprising how often it will be found that notwithstanding prompt and supposedly complete removal, the tumors recur in the cord higher up, or within the abdomen and cause death.

Theories of Causation.—Various theories have been offered for the explanation of the origin of teratomata. One theory supposes that two ova were originally impregnated and only one developed. The undeveloped one later receives an impulse that causes it to produce a teratomatous growth. A second theory is that by some accident certain cells became split off from the original germ cells before they had developed very far. It is well known that if when the germ contains but two cells, one of them be destroyed an animal will develop complete in all its parts, though the animal is smaller than it would otherwise have been.

Hypothetic Partial Hermaphroditism.—A third hypothesis supposes that partial hermaphroditism exists in these cases and that some of the opposite sex cells included in the genital organs become impregnated and produce the teratomatous growth. Certain large cells have been pointed out as existing in some testicles, which were considered to be primordial ova. Other observers, however, consider these large cells as nothing more than connective tissue corpuscles. This hermapthroditic theory would explain better than any other the fact that most teratomatous tumors develop about the age of puberty. These tumors; however, are known to occur much earlier. They have been reported as early as three and eight months. It is doubtful too if hermaphroditism would be required since the pathogenic impregnation of the ova seems not impossible according to modern observation.

Terminology of Teratoma.—Dr. Frederick R. Sturgis said that there is some confusion as to the application of the term teratomata. This name properly should be applied only to such tumors as contain hair, skin, bones, etc., that is, representatives of all the tissue of the human body. Of late, however, the tendency has been to call all tumors of the testicle or ovary, which contain tissue that may originate from the three original germ layers, teratomata.

With regard to the malignancy of these tumors, Dr. Sturgis considers that many of them seem to become malignant because they were originally secondary malignant tumors, there being other malignant tumors in the body. In a case under his own observation the patient had suffered an injury to his testicle while riding on his bicycle. At the time swelling and pain developed. Later a painless tumor grew. Notwithstanding careful removal of all tissues that seemed to be involved, the patient died from carcinomatous infiltration of the lumbar gland. After his death, a bit of history became known that had not been known before, namely, that he had been injured severely in the abdominal region, some years before the bicycle injury to his testes. It seems probable that the first injury caused the development of an abdominal malignant tumor which gave a metastasis later to the testicle because that organ had lost some of its resistive vitality as the result of injury at the time of the bicycle accident.

Expectation of Life.—Dr. Curtis said that the average length of life after the development of a teratoma is from two to three years. The sooner operation is performed after the general character of the tumor is recognized the longer is the expectation of life. At the best, however, the prognosis is rather hopeless. The custom generally is not to consider these tumors as very malignant. But any one who has followed up a series of cases knows that they almost invariably terminate fatally by post-operative recurrences of true malignant type.

Indications for Operation.—Dr. Eugene Fuller said that it is a good rule to remove anything in the testicular region that develops rapidly. There is always a marked tendency to malignant degeneration in these tissues. To wait for assurance of diagnosis is often to waste valuable time. Where there is not a reasonably good suspicion in the history of syphilis or tuberculosis, even the therapeutic tests for these chronic pathological processes may prove not only futile, but almost fatal to the patient. In one case recently, Dr. Fuller kept a patient for two weeks on the iodide in order to assure himself that the tumor was not a syphiloma. The patient himself insisted that he had not had syphilis. The intra-abdominal glands rapidly became involved and, though the testicle and cord were removed completely, the patient died from recurrence not long after the operation.

Danger of Recurrence.—In closing the discussion Dr. Coley said that with regard to refinements of nomenclature he was not well enough up in the anatomical details of the subject to discuss them. When the three representative tissues of the germinal layers occur in a tumor, there seems to be an agreement among the pathologists that it shall be called a teratoma. Hence the name given to the tumor in the present case. The surgical indication for these cases is removal of the tumor as soon as it is discovered. Even though the malignancy of the removed tumor may be doubtful, one can look for recurrence. Almost inevitably recurrences take place. There seems to be a virulent malignancy about these growths that causes seeds of them to be disseminated widely and at some distance from the original tumor. The removal of the whole tumor, then, becomes in most cases a practical impossibility.

Sarcoma of Testicle.—Dr. Coley has seen

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sixteen cases of sarcoma of the testicle, that is, of the tumors he considers primary. In one-half of these there was some antecedent injury in the history. As a rule, there was but a very short interval between the subsidence of the acute traumatic symptoms and the development of the malignant tumor. In the case of the teratoma presented, four weeks after the tongue of a wagon had produced the injury, a round tumor developed. Though it was considered at first to be non-malignant the testicle was removed and with it the cord up to the internal ring. Despite this wide removal of tissue death took place three months later as the result of the development of a tumor in the kidney. Two microscopic examinations of the original tumor removed from the testicle seemed to show that it was not malignant and at most only a granuloma. Repeated examinations aroused the suspicion of round-cell sarcoma. The tumor which developed in the kidney proved to be a round-cell sarcoma.

Bicycle and Malignant Testicular Tumor.—In three of the sixteen cases of primary sarcoma of the testes which Dr. Coley has had under observation the injury which led up to the development of the sarcoma came as the result of bicycling. There is no doubt that acute trauma either serves to arouse dormant connective tissue cells, or else so lowers the resistive vitality as to permit the irritant which causes the tumor to secure a favorable opportunity for lodgment in the tissues. Connection between the injury and the malignant tumor in these cases is undoubted. With regard to the idea advanced by Dr. Curtis that some of the teratomata develop as secondary growths to some malignant tumor within the abdomen, it would seem much more straightforward to consider the testicular tumor primary. The teratomata develop in young and healthy men, who have previously had no abdominal symptoms and they come as the result of direct injury to the testes.

BOOK REVIEWS.

MEDICO-SURGICAL ASPECTS OF THE SPANISH-AMERICAN WAR. By Lieut.-Colonel DR. NICHOLAS SENN. American Medical Association Press, 1900.

THE book is a series of letters written evidently in haste by Dr. Senn from his various posts of duty during the war, and is illustrated with photographs of prominent generals and army surgeons and with views of places.

Most of the letters are made up of rhetorical descriptions of scenes and places, and here and there are to be found instructive comments, such as would naturally be made by a keen medical observer, and there are a number of entries embodying conclusions, which the writer's experiences especially fit him to make, such as those on the "First Aid Packet," the training demanded for an army surgeon, and the surgical operations most frequently necessary for an army corps.

PHYSICAL DIAGNOSIS IN OBSTETRICS. By EDWARD A. AYRES, M.D., Professor of Obstetrics in the New York Polyclinic; Attending Physician to the Mothers' and Babies' Hospital. E. B. Treat & Co., New York.

DR. AYRES says that his manual of physical diagnosis in obstetrics aims "to represent on paper, and with more careful expansion of statement than could be given in daily verbal instruction by the side of the patient, the clinical study of obstetrics, as the author has been accustomed to pursue it with his classes in hospital and dispensary work." He thus sets himself a very high standard, as his many students will readily recognize. He has not, however, failed to reach his standard. He has made a very practical and useful manual for the practitioner.

The following statement with regard to antepartum examinations is of special interest, because it is often urged that they are infeasible in private practice. By laying stress on such points as determining the time of labor and with many the sex of the child, and the value of forseeing difficulties and thereby avoiding them with the more seriously inclined, it is rare that ready permission is not gained to make antepartum examinations if care is taken to avoid needless exposure.

There are many points in the book that are indicative of Dr. Ayres' very practical methods of teaching.

THE ESSENTIALS OF PRACTICAL BACTERIOLOGY. An Elementary Laboratory Book for Students and Practitioners. By H. J. CURTIS, B.S., M.D. Longmans, Green & Co., London, New York and Bombay.

THIS is an excellent manual for the laboratory student, and it can be most heartily commended as being small in size, reasonable in price and accurate in statement. While there are plenty of such manuals now published this can be singled out as belonging to the best class of this type of work.

THE NURSING PROFESSION. HOW AND WHERE TO TRAIN. By SIR HENRY BURDETT, K.C.B. Third Year. The Scientific Press, London.

THIS is a compact and thoroughly reliable guide for the aspirant who desires to take up the vocation of trained nursing. Unfortunately the information bearing on schools in the United States is very meager, the majority of the described training schools being in England, Ireland, Scotland and on the Continent.

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THE MEDICAL NEWS.

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SPECIAL ARTICLE.

MEDICAL DEPARTMENT OF THE UNIVERSITY OF PENNSYLVANIA.

BY CHARLES W. DULLES, M.D.,

OF PHILADELPHIA;

LECTURER ON THE HISTORY OF MEDICINE, UNIVERSITY OF PENNSYLVANIA.

THE history of the oldest medical school in the United States carries us back to a time when the people of this country still exhibited the punctilious attention to matters of politeness and courtesy which prevailed before the printing press, the steam-engine and the various applications of electricity combined to give this country a peculiar character of haste and strenuous exertion. That was the age of canes and peruques, of formal manners, of respect for authority, and deference to age, of many graceful traits which have almost disappeared in the bustle and hurry of our day.

MEDICAL DEPARTMENT OF THE UNIVERSITY OF PENNSYLVANIA.

Before the organization of the Medical Department of the University of Pennsylvania in 1765, the only form of medical instruction in this country was that furnished by individual practitioners to whom were apprenticed such youths as desired to enter upon their calling, and who were sometimes compelled to perform not only the duties of an assistant, in preparing medicines and keeping records, but also those of a drudge in carrying these medicines from house to house and in cleaning up their master's offices and doing other menial services. Of public teaching there had been nothing but a course of lectures in anatomy delivered in Philadelphia by Dr. Thomas Cadwalader about 1750, and another delivered several years later by William Hunter in Newport, R. I., and still later a third given by Dr. William Shippen, Sr., in Philadelphia.

In 1765 John Morgan, a member of the first class that graduated in arts from the College of Philadelphia, in 1757, and who had received his medical education abroad, returned to this country and proposed the addition of a school of medicine to his Alma Mater. His project, which was endorsed by the Proprietary of the Province, Thomas Penn, and by eminent teachers of medicine in England, met with a favorable reception by the Trustees of the College, and a department of medicine was inaugurated by his election May 3, 1765, as Professor of the Theory and Practice of Physic, while on September 23d, of the same year, Dr. William Shippen, Jr., a graduate of the College of New Jersey, who like Morgan had studied medicine abroad, and had there conferred with

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Morgan about the foundation of a medical school in Philadelphia, was made Professor of Anatomy, Surgery and Midwifery.

At the same time Dr. Thomas Bond delivered a regular course of lectures in the Pennsylvania Hospital, attendance upon which was made obligatory upon the students, part of the requirements for the Degree of Bachelor of Medicine, established by vote of the trustees July 27, 1767, being that the applicant should attend one course of "Clinical Lectures," and the "Practice of the Pennsylvania Hospital for one year." This was in addition to furnishing evidence of a good classical and scientific education and attendance on lectures on chemistry in the College.

In January, 1768, the medical faculty was enlarged by the addition to it of Dr. Adam Kuhn, as Professor of Materia Medica and Botany, and in July, 1769, Dr. Benjamin Rush was appointed Professor of Chemistry. Thus the Faculty was made up of men of the highest type of citizens, as men of science and as teachers, each one of whom left an indelible impress upon the development of medical teaching in this country.

At that time, and for long afterward, Philadelphia was the undisputed center of education in America, and Philadelphia physicians and surgeons surpassed those of the rest of the country in number and attainments and reputation. In this, the medical profession in Philadelphia was only keeping step with the other departments of art, science, and industry, for here were established the first medical school, the first hospital, and the first dispensary in America, the first fire company, the first circulating library, the first company for insurance against fire, the first local periodical, and the first bank; while in Colonial times and long afterward Philadelphia was the center of study for botany, astronomy, natural history, and all the sciences that were pursued at that age. Philadelphia also furnished the material to form the American Philosophical Society, which for many years was to our country very much what the French Academy has been to France—the focus of learning of every sort. The College of Philadelphia (afterwards the University of Pennsylvania) enjoyed the public recognition of the highest officials of the British Government before the War of the Revolution, and to its halls were gathered, from all parts of the country and even from foreign lands, students who sat at the feet of teachers who were the honored and equal colleagues of the most eminent scientific men of Europe—the often-quoted sneer of Sidney Smith in regard to American achievements in science and art being founded upon his ignorance as much as upon his spleen.

It is hard now to picture to ourselves the conditions which existed in Philadelphia at the end of the eighteenth century: the strip of houses along the Delaware, the smallness of those houses, the unlighted streets, the want of public conveyances, the watchmen stalking sleepily through the town at night, and greeting from time to time the doctor, wrapped in his cloak and supported by his cane, as he went on his errands of mercy, and to realize the state of the country at a time when its only original work on surgery was that of John Jones of Philadelphia, entitled: "Plain, Concise and Practical Remarks on the Treatment of Wounds and Fractures"—a little book put out in 1776 for the use of surgeons in the armies of the Colonies—and when Shippen's house was attacked by what is known in history as the "Sailors' Mob," and he was compelled to deny in print the accusations of grave-robbing.

The general standing of the College of Philadelphia at this time may be inferred from the fact that in 1763 its students numbered nearly four hundred and were gathered from different parts of the Colonies as well as from the West Indies and other adjacent provinces and islands. The establishment of the department of medicine was the occasion for the expression by Dr. Morgan of the following hope which was abundantly fulfilled when it became not only the special glory of the University, but also the greatest school of medicine in the country: "Perhaps this Medical Institution, the first of its kind in America, though small in the beginning, may receive a constant increase of strength, and annually exert new vigor. It may collect a number of young persons, of more than ordinary abilities, and so improve their knowledge as to spread its reputation to distant parts. By sending these abroad duly qualified, or by exciting an emulation amongst men of parts and literature, it may give birth to other useful institutions of a similar nature, or occasional rise, by its example, to numerous societies of different kinds, calculated to spread the light of knowledge through the whole American Continent, wherever inhabited."

The outbreak of the war between the Colonies and the mother country seriously interrupted the course of teaching in the College of Philadelphia, partly because fewer persons presented themselves to be taught—so many having joined the army—and partly because the teachers of the institution themselves took an active part in the struggle and gave their services to their country: all of the four professors who began the work of teaching—Morgan, Shippen and Rush—being attached to the Continental Army as medical officers. In the year 1779 the party in power in the new State of Pennsylvania, for reasons which cannot now be either understood or justified, passed an Act annulling the charter of the College of Philadelphia and organized an institution to which was given the name of "The University of the State of Pennsylvania." This act of injustice did not

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destroy the vitality of the College or secure prosperity for its intended supplanter; and in 1789 the Legislature restored the rights of the College of Philadelphia and declared its previous action to have been "repugnant to justice and a violation of the Constitution of this Commonwealth and dangerous in every precedent to all incorporated bodies." Two years after this the institution which had been meant to supplant the College of Philadelphia proposed to merge its existence in that of its predecessor and on September 30, 1791, the two were united by the Legislature and made into one institution to be carried forward under the title of the "University of Pennsylvania."

When the struggle of the Revolution was ended and the work of organizing and solidifying the affairs of the Colonies was progressing, the Faculty the teaching of anatomy was freed from the burden of instruction in surgery and in midwifery, the latter of which was generally regarded as rather demeaning to a medical man, and all three branches were endowed with greater dignity. It is a curious indication of the sentiment of the time that when James was appointed Professor of Midwifery, the Trustees provided that it was not necessary, in order to obtain a degree, that the students should attend his lectures. In 1813, however, the Chair of Midwifery was placed on an equal footing with the other Chairs of the Faculty.

Of its first teachers, posterity has preserved the liveliest recollection. John Morgan, who shared with Shippen the glory of having founded the Department of Medicine, conducted the duties of his Chair until his patriot-

UNIVERSITY, COLLEGE AND MEDICAL HALLS.

the Medical Department of the University of Pennsylvania increased in scope, so that in 1792 its Faculty consisted of William Shippen, Jr., Professor of Anatomy, Surgery and Midwifery, with Caspar Wistar as Adjunct; Adam Kuhn, Professor of the Theory and Practice of Medicine; Benjamin Rush, Professor of the Institutes of Medicine and Clinical Medicine; James Hutchinson, Professor of Chemistry; Samuel P. Griffitts, Professor of Materia Medica and Pharmacy; and Benjamin Smith Barton, Professor of Botany and Natural History. The year 1805 was remarkable in the history of the University by the establishment of a separate chair for the teaching of surgery, to which was appointed Dr. Philip Syng Physick, while in 1810 Thomas Chalkley James was made Professor of Midwifery. By these two additions to ism led him, with many of his colleagues, to place his skill at the service of his country. At the end of the Revolutionary War he did not return to his professorial position on account of failing health.

More happy in his career, Shippen was for over forty years a professor in the University, teaching at first the then allied subjects of anatomy, surgery and midwifery—which in that day was a department of surgery—and concluding as Professor of Anatomy when this branch was considered worthy of the best efforts of a single teacher. Shippen did more than any other man in this country to induce a proper consideration for the subject of midwifery. As early as 1765 he had established a course of private lectures in which he proposed "to instruct those women who have virtue

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enough to own their ignorance and apply for instruction, as well as those young gentlemen now engaged in the study of that useful and necessary branch of surgery, who are taking pains to qualify themselves to practise in different parts of the country, with safety and advantage to their fellow citizens." His career as an anatomist, however, overshadowed his other worthy achievements. He combined great ability as an anatomist with a singularly pleasing and successful method of instruction, so that those of his pupils who had studied abroad declared that they had met no man superior as a demonstrator of anatomy and very few indeed who were his equals.

It is hard to think of the name of Benjamin Rush without recalling the majestic figure he became, or to fancy him a graduate of the College of New Jersey at the age of sixteen years, a student in the office of the eminent Dr. Redman of Philadelphia, and returning from studies in Edinburgh, where he received the degree of Doctor of Medicine, to occupy when only twenty-four years old the Chair of Chemistry in the College of Philadelphia—the first Chair of Chemistry established in North America. He brought with him the endorsement of Thomas Penn, who wrote that Dr. Rush had been recommended to him by Dr. Fothergill as a "very expert Chymist" and added "the Doctor having further recommended to me to send a Chymical Apparatus to the College, as a Thing that will be of great use, particularly in the tryal of ores, I send you such as Dr. Fothergill thought necessary, under the care of Dr. Rush, which I desire your acceptance of." Youngest of the members of the Faculty, whose ages ranged from twenty-four to thirty-four years, Rush became the greatest of them all, adding to a position as a teacher, which has led to his being called the Galen of America, extraordinary services as a public man, as surgeon-general to the Continental Armies, as Member of Congress and as a signer of the Declaration of Independence. So wide did his fame extend that in 1811 the Emperor of Russia sent him a diamond ring as a testimonial of respect, while in this country he was so great that no man of his time or since can be compared with him as a medical teacher. Indeed, in our day it is hard to understand those days in which a man was so much a master of his followers. And yet he did not escape detraction, for one of his enemies, taking the sobriquet of "Peter Porcupine," issued, from the security of New York, a periodical which he named the "Rush Light," devoted solely to bitter abuse of him.

James Hutchinson, a graduate in arts of the College of Philadelphia, took his degree of Bachelor of Medicine there in 1774. His tickets to the lectures of the Professors of the College, which are still in the possession of his descendants, were written upon the backs of playing cards. After studying in England he returned to America by way of France bearing important dispatches from Franklin to the Congress of the United States. When near the American coast the ship in which he was a passenger was chased by a British armed vessel and, to save the dispatches, he left the ship and in an open boat under a heavy fire succeeded in landing with his precious documents intact. The ship was soon captured and he lost everything he had on it, including a fine medical library collected in England and in France. To this service to his country he added the evidence of patriotism then usual in the medical profession, that he served in the Continental Army as a medical officer and as a volunteer, and aftterwards in the State Navy, for the handsome remuneration of at first three shillings per day and finally for the magnificent sum of three or four pence.

Samuel Powell Griffitts, who lectured only six sessions and then resigned, was largely influential in the establishment of the Philadelphia Dispensary in 1786, and interested in the formation of a National Pharmacopœia, projected in 1778 by the College of Physicians of Philadelphia and finally brought to accomplishment in 1820.

Benjamin Smith Barton was the pioneer of the science of botany in America, not only distinguished himself, but also followed by a number of distinguished disciples. In teaching he had the advantage of being skilful with his pencil in illustrating his subject—an art which he acquired under the instruction of Major André, when he was a prisoner of war at Lancaster where Barton was born.

Caspar Wistar was one of the most attractive and influential men of his period. He was a disciple of John Redman and John Jones—then practising surgery in Philadelphia—a graduate in medicine of the University of the State of Pennsylvania and trained abroad. He taught first chemistry and then anatomy in the reinstated College of Philadelphia. He had rare skill as a teacher and was singularly inventive in methods of demonstration to the students, and in preparing specimens and models which are still used. His anatomical preparations, presented to the University by his widow, supplemented in 1824 by the anatomical collection of the Pennsylvania Hospital which was given by the Managers to the University, and at a later date by the preparations of Dr. Horner, constituted what was for nearly a century known as the Wistar and Horner Museum and was the scientific foundation of the present Wistar Institute of Anatomy and Biology, which is now such an important department in the University.

Thomas Chalkley James, the first actual professor of obstetrics in this country, was one of the earliest graduates in medicine from the college in which he afterward became a teacher. During his studies abroad he was associated with Physick, afterward his colleague

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in the University. As a young man, in 1794, he joined those who lent their aid to Washington in suppressing a disturbance known in history as the "Whiskey Insurrection," which at that time seriously threatened the existence and stability of the newly formed republic. He joined the expedition as surgeon of a *corps d'élite*, which promptly tendered its services at the request of the President. As these volunteer troops marched before Washington on their way to the scene of the conflict, he was heard to say with emotion: "God bless you! God bless you, young gentlemen!" James was largely influential in having established at the Philadelphia Alms-House, in 1802, a lying-in ward, to which he was the first accoucheur; he was also, in 1810, made the first "Physician to the Lying-in Department" in the Pennsylvania Hospital, part of the funds for the establishment of which were contributed in 1807 by the gallant and patriotic young gentlemen of Philadelphia who constituted the "First Troop of City Cavalry," an organization still in existence and enjoying the prerogative of being body-guard to the President of the United States whenever he visits this State. The members of the Troop gave to the Hospital the entire amount of their pay—long withheld—for services rendered their country during the Revolutionary War, and the interest on this sum amounted annually to between four and five hundred dollars.

JOHN MORGAN.

WILLIAM SHIPPEN, JR.

Of the men who during the nineteenth century taught in the halls of the University and added to its luster, one of the most conspicuous was Philip Syng Physick, who by his combination of talents and integrity well merited the title of "Father of American Surgery." While studying in Great Britain he was a favorite pupil of John Hunter, who, in his Treatise upon the Blood, awards to Physick the credit of many of the experiments therein described. He received the degree of Doctor of Medicine at Edinburgh in 1792: this occurrence being the occasion of a mark of singular appreciation by the University of Edinburgh to the standing of the University of the State of Pennsylvania in which he had received his medical training under Dr. Kuhn and his colleagues. As surgeon to the Pennsylvania Hospital he delivered private lectures on surgery as early as 1800, and in 1810 he was elected by the University of Pennsylvania to fill the Chair of Surgery which was then first separated from that of Anatomy. Physick's achievements as a surgeon and as a teacher fill a large part of the history of his day. He enjoyed the acquaintance and confidence of the most distinguished men of his time and one of his last operations was a successful lithotomy upon Chief Justice Marshall, then in his seventy-fifth year.

The perpetuation of Physick's reputation depends largely upon the recollections of his pupils and especially of his nephew, John Syng Dorsey, who founded much of the teaching of his Treatise on Surgery upon the practice of Physick. Dorsey was made adjunct Professor of Surgery when only twenty-four years old and soon after a surgeon to the Pennsylvania Hospital. His intimate association with Physick furnished an opportunity of which his genius enabled him to make good use, so that in 1813 he published his Elements of Surgery, which was the first work on general surgery issued in this country and for a long time the only text-book on surgery used in American schools. His death took place in 1818 when he was only thirty-five years of age, within a week after he had delivered his opening lecture as Professor of Anatomy, and brought to

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an end a career which in its promise and untimely end suggests that of Bichat. A short time before his death Dorsey removed to a newly built house on the southwest corner of Seventh and Walnut streets, which overlooked what is now known as Washington Square and was then the Potter's Field. On the eastern side of this field was the city

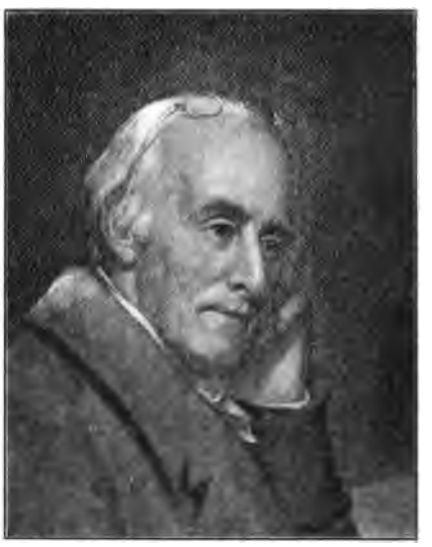
ANATOMICAL HALL IN 1770.

prison, referred to in the annals of that day. He had been in the house but a few days when Judge Peters, an old and intimate friend, called to pay his respects. Standing at the window over-looking the Square, with the prison full in sight, he said: "Dorsey, I do not like your situation; you have a poor prospect before the grave." Another humorous saying connected with the life of Dorsey is attributed to Nathaniel Chapman, who, in reply to some expression of gratification by Dorsey on his appointment as Professor of Anatomy, and the remark that he hoped he would have an opportunity to distinguish himself, said: "Why you are already distinguished, a muscle has been named for you—the *latissimus dorsi.*"

During the remainder of the nineteenth century the roll of Professors in the Medical Department of the University of Pennsylvania included the names of the brilliant and versatile Nathaniel Chapman, who after assisting Professor James in the teaching of midwifery was Professor of Materia Medica and then for thirty-four years Professor of the Theory and Practice of Medicine, whose remarkable witticisms served perhaps as much as his ability as practitioner and as a teacher to keep his memory green for generations; of George B. Wood, fifteen years Professor of Materia Medica and ten years Professor of Practice, teacher, trustee, historian and benefactor; of Alfred Stillé, who filled the Chair of Practice from 1864 to 1884, of world-wide reputation as a teacher and author and a man of the highest type of scholarship and refinement.

Stillé's successor in the Chair of Practice was William Pepper, Jr., whose extraordinary talents and unwearied perseverance, in that chair and in the office of Provost of the University, enabled him to greatly expand the field of its usefulness, whose capabilities were Napoleonic, and whom no obstacle sufficed to deter from pursuing to its end any work that he undertook. Toward the end of his life his administrative ability was more conspicuous than his achievements in the line of his profession, but no one who knew him well is at a loss to understand why he occupied so conspicuous a position before the medical profession or before the world.

In the teaching of surgery and anatomy the most memorable names were those of William Gibson, William E. Horner, Joseph Leidy and D. Hayes Agnew. Gibson, who left the Chair of Surgery in the University of Maryland and occupied the corresponding one in the University of Pennsylvania for thirty-six years, is best known by his work on Surgery, which passed through many editions, and the fact that he twice successfully performed Cesarean section upon the same patient. Horner, coming from Virginia, was assistant to Physick and afterward to Dorsey, then, in 1820, Adjunct Professor of Anatomy, and at the resignation of Physick, Professor—a careful, studious and painstaking teacher and an able surgeon, author of a work on Anatomy and contributor of so many specimens to the Museum founded by Wistar that by order of the



BENJAMIN RUSH.

Trustees it was known after his death as the Wistar and Horner Museum.

Next after Gibson, Henry H. Smith filled the Chair of Surgery for fourteen years, being followed by D. Hayes Agnew, who occupied it from 1871 to 1889—one of the most loved teachers in the Faculty and a surgeon of extraordinary judgment and skill, on whose

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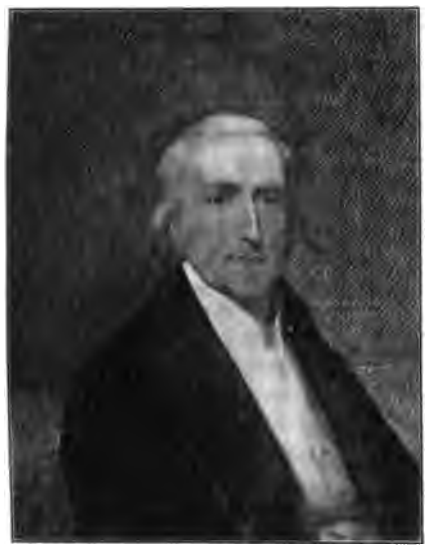
words the Nation hung during the weary months in 1881 when President Garfield languished to death from the bullet of an assassin. Though he published a work on Surgery that filled three large volumes, his most lasting monument is the magnificent D. Hayes Agnew Pavilion of the University Hospital, erected by his friends and pupils in his memory. And last—before the present incumbent



PHILIP SYNG PHYSICK.

—came John Ashhurst, jr., patient, unswerving in integrity, strict with himself, as with others, a fine example of the learned surgeon, leaving the stage just as it came to be filled with those who in their wonder at the achievements of modern surgery have had their gaze averted too much from the wonders achieved by the surgeons of earlier days.

Joseph Leidy, first connected with the University as Horner's Assistant and elected his successor in 1853, was for more than forty years Professor of Anatomy. Though one of the most distinguished naturalists in the world; he was a man of singular modesty and retiring disposition. His lectures were simple and unadorned, save for a faint touch of humor here and there, which was the more appreciated because of its contrast to his habit, and occasionally a passing reference to some minute investigation to which he alluded as though it had not deserved the applause of the scientific world. In the class-room he seemed to know nothing but his subject, and in the "green-room"—as the examination-room was then still called—which in those days tried the soul of the aspirant for a degree, he pushed the investigation of the students' knowledge with as calm an indifference as marked his scientific investigations. They never thought him unkind, though one of his amusements was never to let his victim go without having asked a question which he could not answer.

In the branch of Obstetrics the most conspicuous names were those of William P. Dewees and Hugh L. Hodge. Dewees was best known as the author of several works: one of them being on midwifery and another on diseases of children. The former was—after that of John Bard of New York—the first systematic work on this subject published in this country. Hodge was Professor of Obstetrics from 1835 to 1863 and the author of a work for many years indispensable to the student of midwifery, while he was the designer of a pessary which will probably always be employed in gynecology, and of the form of forceps well known by his name.

The successor of Hodge, in 1863, was R. A. F. Penrose, of whom—as happily he still lives, sole survivor of the Faculty of twenty-five years ago, from which he resigned in 1888—it is not an easy thing to speak. But those who enjoyed his teaching will surely never forget his instructive lectures or the rare treat they had once a year, when, with all the airs of secrecy—doors closed and tickets demanded—they looked down upon the table upon which lay, covered with a decent sheet, the form of Mrs. O'Flaherty, whose wooden frame and chamois-skin integument for so many successive years furnished an example of labor and the opportunty to demonstrate an ac-

D. HAYES AGNEW.

couchment; nor will they forget his humorous stories which fixed in their recipient minds truths which would have found a less cordial welcome if less entertainingly communicated.

Allied with the Department of Obstetrics is that of Gynecology, of which Dr. William Goodell was one of the first and most distinguished teachers in this country. To his success as an operator he added a most pleas-

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ing method of lecturing: rare choice in the words used, simple, direct, homely, but singularly attractive. Withal he had the charm of candidly telling of his failures and making them quite as instructive to his students as were his successes.

Then there was Joseph Carson—"old Uncle Joe," he was called—with whose amiability his hearers sometimes took slight liberties, but for whom they all felt the deepest regard and respect; for twenty-six years he taught Materia Medica and Therapeutics with a wealth of knowledge and a depth of thinking that those who learned of him can never forget. Those were the days before manufacturing pharmacists had destroyed the poetry of materia medica; when the old man exhibited his specimens each one of which had for him a living interest like the gourd of "squirting-cucumber" which was always described as having been "sent to me from Joppa by my young friend, Mr. ——, of the United States Navy." Those who listened to him will never forget the tears he could not restrain when he mentioned "my lamented predecessor in this chair, the late Dr. George B. Wood," or the break in his voice when he described the untimely death of the Princess Charlotte, or told of the heart-break of Condamine when his laboriously collected specimens of cinchona went to the bottom of the Amazon just as he was about to enter the ship that was to take him to France. Besides the memories that cluster round his years of teaching he left to the Alumni a History of the Medical Department of the University of Pennsylvania that will perpetuate both its fame and his.

Finally, there was Robert E. Rogers, made Professor of Chemistry after his brother James in 1852, and Francis Gurney Smith, made Professor of the Institutes of Medicine in 1863. Of these Rogers served longest. His lectures were full of interest, and those who attended them can picture him still with his pointer tucked under the stump of his right arm—injured by an explosion years before—while with his left hand he wrote upon the blackboard or manipulated the ingredients of an experiment. Amiable, impulsive, he made chemistry one of the most interesting branches of the curriculum. And Francis Gurney Smith, the polished teacher of physiology—before machinery and vivisection had ruined its graceful proportions or turned their prosaic searchlights into those dim corners where were supposed to lie hid such uncomprehended forces as "catalytic action"—strove not only to lead his hearers to a comprehension of the facts then known in regard to physiology, but also to direct their thoughts to the nobility of their calling, concluding his course of lectures with such pious wishes for their eternal happiness as in this day would hardly fit the general mood of man. And last, Wormley, the rigid, rugged, absolutely unswerving; the man of science—one might say exclusively—the master of his department and seeming to have been made for it.

These are the great men of the past whose mantle now rests on shoulders no younger than were theirs when they began their career—on shoulders which, it is hoped, will grow to such proportions as become the followers of their great predecessors; so that he who describes their generation may feel for them such emotions as we feel toward those who have passed on before them.

The great men of the past are distinguished partly because they produced such results with such meager facilities for investigation and teaching. They had no instruments of precision, some of them had no knowledge of physical diagnosis, and others witnessed its birth. Equally meager were their physical accommodations. The first steps in medical teaching in the College of Philadelphia were taken in the homely old building called "Anatomical Hall," "Surgeons' Hall," on Fifth Street just south of the building still occupied by the Philadelphia Dispensary. Thence the College and the Medical School were removed to Ninth Street, to the building known as the "President's House," erected during the life of Washington and intended as a gift from the State of Pennsylvania to the President of the United States, whose occupancy was declined by President Adams for what he considered constitutional reasons and which was bought in 1800, and first occupied by the schools of the University (except for the chairs of Anatomy and Chemistry) in 1802. In 1829 this building was taken down, and on its site two others were erected which were the home of the University until it was removed to West Philadelphia, where step by step its accommodations increased until they are now probably unequaled in the world. Here is one of the finest dormitories in the country, a wonderful development of the idea which had its first expression in the small building erected in 1762 at the corner of Fourth and Mulberry (now Arch) Streets, with funds raised by a lottery. Here is the first and finest club-house—Houston Hall—ever erected for the use of students, and laboratories for every line of investigation connected with the science and art of medicine, and the Hospital of the University with its 285 beds. The staff of teachers in the Department of Medicine now numbers ninety-seven, and there is no new want discovered that does not receive the prompt attention of the Faculty, of the Trustees, and of the untiring Provost. An early champion for the highest standards of medical education, it is one of the best boasts of the Department of Medicine in the University of Pennsylvania that it stands to-day an acknowledged leader in this respect, and that it bears its full share in upholding the motto of the University, *"Literæ sine moribus vanæ."*

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ORIGINAL ARTICLES.

A REPORT OF TWENTY-FOUR OPERATIONS PERFORMED DURING SPINAL ANALGESIA.

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THE position that spinal puncture is to occupy in the surgical world continues to be an open question. Notwithstanding the favorable reports of many observers and the discouraging experiences of the few, the vast majority of the medical profession are wisely deferring judgment until further experimental evidence has accumulated and any possible remote effects have had time to develop.

The purpose of the present paper is to record the facts concerning some of the actual cases which have occurred in my practice, rather than the giving of an expression to any individual opinion.

In the *Medical Record* of December 15, 1900, I reported my first cases. Since then I have had over forty additional ones and of these the following are selected as of the most interest:

Case I.—J. R., male, aged eleven years; admitted to the hospital with a history of several epileptic attacks. During the past two weeks, no evidence of epilepsy, but distinct symptoms of chronic appendicitis. The last three days has had increased pain at times in the right iliac fossa, with a slight temperature. Cocaine analgesia, February 18, 1901. Place of puncture, to the right between the third and fourth lumbar vertebræ. Amount of cocaine, twenty minims of a two-per-cent. solution. Analgesia to the level of the diaphragm in five minutes after the injection. Vomited five minutes later. At this time it was learned that the patient had by some error secured solid food, although on a fluid diet, and, as far as the stomach was concerned, was totally unprepared for the operation. After this initial vomiting, which lasted but for a moment, there was no nausea or emesis throughout the operation. The usual "gridiron" appendicectomy was performed. The appendix was bound down by adhesions behind and to the pelvic side of the cecum. The peritoneum in the neighborhood of the vermiform, as well as the appendix itself, was acutely inflamed. (Subsequent pathological report on the examination of the appendix confirmed the diagnosis of chronic appendicitis with acute exacerbation.) The operation lasted fifty minutes, and was unaccompanied by pain or discomfort. At the end of the operation the analgesia was still complete to the level of the diaphragm. Before operation, temperature, 99.8° F.; pulse, 92; respiration, 22. Two hours after operation, temperature, 99° F.; pulse, 96; respiration, 24. Analgesia entirely disappeared in two hours and fifteen minutes after the completion of the injection. Slight nausea at one time during the night. Temperature reached 101° F.; pulse, 104; respiration, 26.

February 19th: Twice to-day has seemed to be on the verge of an epileptic attack, clinching the fists and closing the eyes for a few moments. February 20th: Quiet day. No pain. Doing very well. February 26th: Stitches removed. Wound healed *per primam*. Convalescence uneventful. March 11th: Patient allowed to be up. Seems perfectly well. March 16th: Patient continues perfectly well. Discharged cured. No evidences of epilepsy during his stay in the hospital except those already noted.

Case II.—S. A., female, aged fourteen years; a highly neurotic child, large for her age, showing the general signs of malnutrition which so frequently accompany advanced tuberculous disease. Marked tuberculous arthritis of the left knee-joint and considerable contracture of the flexor tendons. Before admission to the hospital, treatment by retentive apparatus proved of no avail. Nocturnal pain materially interfered with sleep and the general health steadily failed. An arthrectomy seemed indicated. Cocaine analgesia, December 21, 1900. Place of puncture, to the left between the fourth and fifth lumbar vertebræ. No difficulty was experienced in introducing the instrument, but the cerebrospinal fluid did not flow and careful examination showed that the needle, although patulous when introduced, had become partially occluded by a small blood-clot. (*a*) A puncture was now made to the right between the same vertebræ and fluid readily flowed from the needle. Amount of cocaine, sixteen minims of a one-per-cent. solution. In seven minutes analgesia was complete to the knees but insufficient for the operation. No nausea or vomiting. (*b*) Second injection between the third and fourth lumbar vertebræ. Amount of cocaine, fifteen minims of a one-per-cent. solution. Analgesia in ten minutes complete up to the level of the clavicles, both in front and behind, including the axillæ. No nausea or vomiting. Operation lasted forty-five minutes, and consisted of an excision of the knee-joint. There was extensive disease involving, not only the bones, but the soft tissues about the joint. After the capsule had been practically removed, ninety-five-per-cent. carbolic acid, immediately followed by strong alcohol, was applied. The patient throughout did not suffer the slightest pain, although at first she evinced some fear. Before operation, temperature, 98.2° F.; pulse, 102; respiration, 24. Two and one-half hours after, temperature, 98.8° F.; pulse, 112; respiration, 36. One and one-half hours after operation was completed analgesia had entirely disappeared. Patient had no nausea or vomiting until two and three-quarter hours after the operation when a repeated request for milk was granted and emesis occurred for the first and only time. Headache during afternoon and evening controlled by small doses of acetanilid, caffeine and sodium bicarbonate.

December 22d: Fair night. Very nervous at

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times. Medicine required again for headache. Stomach retentive. Highest temperature, 102° F.; pulse, 128; respiration, 26. December 23d: Patient comfortable. December 24th: Better than before operation. December 25th: Temperature, pulse and respiration normal. Sleeping and eating well.

Case III.—Same patient; general conditions greatly improved. Cocaine analgesia, January 4, 1901. Place of puncture, to the right between the fifth lumbar and the first sacral vertebræ. Amount of cocaine, ten minims of a two-per-cent. solution. Analgesia to the level of the trochanter major in four and one-half minutes. Splint and stitches removed. Parts in excellent condition. Dressed and reapplied splint. Operation lasted thirty minutes, and analgesia entirely disappeared in one hour thereafter. Before operation, temperature, 98.2° F.; pulse, 102; respiration, 24. One and one-half hours after operation, temperature, 98.8° F.; pulse, 120; respiration, 24. There was no nausea or vomiting at any time, and three hours after the operation the patient consumed and retained bread and milk. But for a very slight headache of short duration, patient felt perfectly well.

January 5th: Patient has slept all night. No effects from the cocaine. Highest temperature 99° F.; pulse, 96; respiration, 24. February 14: Up and about, feeling very well, gaining steadily. March 1st: Has gained markedly in flesh and strength. Feels strong and well. Firm union. Splint continued. March 18th: Parents desire patient at home. Light splint applied. Discharged cured.

Case IV.—J. B., male, aged nineteen years. Strong and healthy with the exception of left lower extremity, which is partially paralyzed. Left dropfoot with congenital deformity of both feet. Cocaine analgesia, December 8, 1900. Place of puncture, between the fourth and fifth lumbar vertebræ. Amount of cocaine, twenty-five minims of a two-per-cent. solution. Analgesia to level of diaphragm in five minutes. Operation lasted fifty-eight minutes, and consisted of a tenotomy of the left tendo Achillis with an excision of the ankle-joint on the same side. Patient suffered no pain whatever. Vomiting and nausea were absent, and the only feeling of discomfort was felt a few moments after the injection, and described as "a dull heavy feeling in the stomach." Before operation, temperature, 98° F.; pulse, 74; respiration, 20. The highest respiration during the operation was 30, and the most rapid pulse 130. For some hours the patient complained of severe headache, which required frequent doses of acetanilid, caffeine and sodium bicarbonate before relief could be obtained.

December 9th: Had a fair night. December 13th: Plaster a little too tight. Splint removed; no after-effects from the cocaine.

Case V.—Same patient. Condition excellent but the necessity for further correcting the position of the foot renders some means for dulling pain advisable. Cocaine analgesia, December 22, 1900. Place of puncture, between the fifth lumbar and the first sacral vertebræ. Amount of cocaine, twelve minims of a two-per-cent. solution. Analgesia began in two minutes and extended to the level of the knees in five minutes. Operation lasted about forty minutes, and consisted in the dressing of the ankle and forcibly bringing the parts into a more normal position. There was no pain or discomfort during the operation; no nausea or vomiting. Before operation, temperature, 99° F.; pulse, 94; respiration, 20. One hour after operation, temperature, 99° F.; pulse, 100; respiration, 22. At the close of the operation the analgesia was to the level of the diaphragm and totally disappeared in one hour and fifty minutes. During the afternoon some headache, slight nausea for a few moments, but no vomiting.

December 23d: Had a good night; patient comfortable, except for an occasional shooting pain in the ankle. December 24th: No after-effects of any kind apparent from the cocaine. January 15th: Patient in good condition; convalescence uninterrupted.

Case VI.—Same patient. Condition good. Further operation on the left ankle necessary for best possible result. Cocaine analgesia, January 21, 1901. Place of puncture, between the fourth and fifth lumbar vertebræ. Amount of cocaine, eight minims of a two-per-cent. solution. Analgesia to the level of the hips in ten minutes from the time of the injection. Operation lasted twenty minutes, and consisted of a tenotomy and osteotomy in the ankle and foot. Plaster applied. No nausea, vomiting or discomfort of any kind; patient talked to the physician and commented upon the various steps of the operation. At its completion the analgesia was up to the level of the diaphragm, but disappeared completely in fifty minutes. Four hours after the operation complained of some headache and of chilly sensations. Heat externally gave relief.

January 21st: Feeling very well. January 22d: No after-effects. February 8th: Up and about the ward with crutches. March 28: Convalescence has been uneventful.

Case VII.— J. H., male, aged fifteen and one-half years. Very poor general condition, with marked nephritis. Urine contains albumin, hyaline and epithelial casts; bacillus coli communis abundant. Caries of the ilium and tuberculous hip-joint with several sinuses. Cocaine analgesia, January 15, 1901. Place of puncture, between the fifth lumbar and first sacral vertebræ. (*a*) Amount of cocaine, ten minims of a two-per-cent. solution. Analgesia in ten minutes to the level of the trochanter major. Area of analgesia insufficient for the operation. (*b*) Second injection between the fourth and fifth lumbar vertebræ. Amount of cocaine, seven minims of a two-per-cent. solution. After fifteen minutes from the time of the second injection the analgesia had extended to the level of the free border of the ribs and was complete for the soft

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tissues, but some pain was elicited when the bone was attacked. (*c*) Third injection between the third and fourth lumbar vertebræ. Amount of cocaine, seven minims of a two-per-cent. solution. A few minutes after the last injection the operation was begun. It lasted twenty-five minutes and consisted of the removal of dead bone from the hip-joint and the pelvis, and curettage of the old sinuses with the making of a large opening in the left buttock down to the sacrum, allowing free exit to considerable pus. No pain was felt and the patient was with difficulty kept from watching the operative field. Before operation, temperature, 100° F.; pulse, 94; respiration, 22. Two hours after operation, temperature, 98.4° F.; pulse, 92; respiration, 22. Analgesia disappeared in forty-seven minutes. Patient consumed milk two and one-half hours after the operation. No nausea or vomiting, but some headache.

January 16th: Slept well after taking two small doses of acetanilid, sodium bicarbonate and caffeine. January 18: Sitting up in bed; feeling very well; condition of urine about the same. March 20th: Patient up and about the ward and feeling very well. Considerable gain in flesh and strength since the operation.

Case VIII.—H. B., male, aged nine years; a strong healthy boy of nervous temperament. (Parents made a special request that the patient should be given something to prevent pain.) Cocaine analgesia, February 1, 1901. Place of puncture, the lower lumbar region. Amount of cocaine, ten minims of a two-per-cent. solution. Analgesia complete to the level of the diaphragm in three minutes. Operation lasted fifteen minutes, and consisted of a circumcision. Patient had nausea and vomiting a few moments after the injection. No pain or discomfort was experienced. Before operation, temperature, 98.4° F.; pulse, 77; respiration, 28. Two hours after operation, temperature, 99° F.; pulse, 80; respiration, 20. Analgesia completely disappeared in three hours. Severe headache for several hours after the operation. Some vomiting.

February 2d: Feeling very comfortable. February 8th: Patient perfectly well. Wound healed *per primam*. March 28th: Patient continues well.

Case IX.—M. B., female, aged eleven and one-half years; general condition fair. Tuberculous abscesses of foot with tarsal necrosis. Cocaine analgesia, February 7, 1901. Place of puncture to the right between the third and fourth lumbar vertebræ. Amount of cocaine, fifteen minims of a two-per-cent. solution. Analgesia to the level of the diaphragm in two minutes. Slight nausea and retching for a moment five minutes after the injection was completed. Operation lasted twenty minutes, consisting of opening the abscesses and removing carious bone and tuberculous tissue. Before the operation, temperature, 102.4° F.; pulse, 128; respiration, 26. One and one-half hours after the operation, temperature, 101° F.; pulse, 128; respiration, 26. At the close of the operation, twenty-five minutes after the injection, there was absolute absence of pain sense over the entire body. Tests proved also that the analgesia was present in the conjunctivæ, the mouth, on the tongue, and the posterior pharyngeal wall. So far as I am aware, this is the first case recorded where analgesia has been present universally throughout the body. Twenty minutes after the operation was finished analgesia began to disappear. Pain sense returned to the head and upper extremities in thirty-five minutes and completely returned in one hour and five minutes. There was no marked shock or depression of the mental faculties either during the operation or subsequent to it.

February 8th: Had a slight headache, but no nausea or vomiting. Seven and one-half hours after operation, temperature, 103.4° F.; pulse, 144; respiration, 32. Took some milk to-day, but has slight repugnance for food.

February 9th: Slept well. Distinctly better than before the operation. February 10th: Condition greatly improved. Sinus healing. March 1st: Good condition. March 28th: Convalescence uninterrupted.

Case X.—W. E., male, aged seven and one-half years. General condition good. Phimosis and enuresis nocturna. Cocaine analgesia, February 19, 1901. Place of puncture, to the right between the third and fourth lumbar vertebræ. Amount of cocaine, ten minims of a two-per-cent. solution. Analgesia to the level of the diaphragm in six minutes. Patient somewhat hysterical immediately following the injection, but became perfectly quiet before the operation was commenced. Nausea and slight vomiting for two minutes in five and one-half minutes from the time the injection was completed. Operation lasted twenty minutes consisting of a circumcision. Patient had no pain or discomfort. Before operation, temperature, 99° F.; pulse, 100; respiration, 24. Two hours and fifteen minutes after operation, temperature, 99.5° F.; pulse, 98; respiration, 24. Analgesia disappeared in two hours and fifteen minutes. Headache for several hours. Vomited once, five hours after the operation.

February 20th: Complained of some headache during the night. Small dose of acetanilid, caffeine and sodium bicarbonate gave relief. February 21st: No after-effects. February 25th: Up and about, perfectly well.

Case XI.—A. M., male, aged sixteen years. Typical tuberculous child, having considerable kyphoscoliosis in the lower dorsal region, with marked prominence of the lower ribs on the right side. Chronic ulcerated cicatrix on the dorsal surface of the right foot. Cocaine analgesia, February 27, 1901. Point of puncture, to the right between the fifth lumbar and first sacral vertebræ. Needle was blocked by small blood-clot while passing through the soft tissues and was withdrawn. The needle freed from the clot was reinserted between the third and fourth lumbar vertebræ. Amount of cocaine, ten min-

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ims of a two-per-cent. solution. Analgesia began in four minutes and extended to the level of the mid thigh in six. The operation lasted forty-five minutes, consisting of the excision of the cicatrix and the covering of the site of the old ulcer by flaps of skin taken from the outer side of the foot and leg. No nausea or vomiting; no pain or discomfort during the operation. Vomited once six hours after the operation and for some hours had headache. Before operation, temperature, 99.4° F.; pulse, 88; respiration, 24. After the operation, temperature, 99° F.; pulse, 84; respiration, 20. After the completion of the operation, tests showed that the analgesia had extended to the level of the nipples in front and behind, and there was motor paraplegia below the level of the hips. These completely disappeared in about two hours.

February 28th: Highest temperature during the night was 102° F.; pulse, 120; respiration, 28. Complains of some pain in the leg, but relieved by small doses of acetanilid, sodium bicarbonate and caffeine. March 2d: Patient seems entirely free from any after-effects. March 28th: Patient's general condition same as before operation. Foot slowly healing.

Case XII.—J. R., male, aged sixteen years; poorly nourished, of low vitality and probably tuberculous. Extreme left talipes equino-varus and an old ulcer with superficial necrosis of the plantar surface of the right os calcis. Cocaine analgesia, February 28, 1901. Place of puncture, to the right between the third and fourth lumbar vertebræ. Amount of cocaine, twenty minims of a two-per-cent. solution. Analgesia began in three minutes and was complete to umbilicus in eight. Some loss of motor power below hips. Operation lasted forty-four minutes, and consisted of the Phelps' operation for talipes on the left foot; old ulcer excised and part of right os calcis removed, with edges of the skin freed so as to make a complete skin covering to the heel. Ten minutes after the operation started, slight nausea and retching. Vomited bile-colored fluid twenty-five minutes later. During period of nausea a weak and rapid pulse was noted, with some cyanosis of the face. A hypodermic injection of $^1/_{100}$ of a grain of strychnine sulphate was given. There was no pain or discomfort during any part of the operation. Before operation, temperature, 98.2° F.; pulse, 90; respiration, 20. Two hours after operation, temperature, 98.2° F.; pulse, 108; respiration, 20. Analgesia completely disappeared in one and one-half hours after the operation, at which time motor power had fully returned to the normal. Two hours after the operation patient ate and retained a light lunch, consisting of bread and egg. Evening, temperature, 101.4° F.; pulse, 142; respiration, 26. Vomited once. Very slight headache.

March 1st: Feeling perfectly well but has some pain in the left foot. Afternoon temperature, 101.4° F. March 2d: Sleeping normally. Appetite good. March 28th: General condition as good as before operation. Feet doing well.

Case XIII.—E. D., male, sixteen years; feeble-minded; external and internal hemorrhoids. Cocaine analgesia, March 2, 1901. Amount of cocaine, twenty minims of a two-per-cent. solution. Place of puncture, to the right between the third and fourth lumbar vertebræ. Analgesia to the level of the diaphragm in two minutes from the completion of the injection. The operation lasted twenty-one minutes and consisted of the usual clamp-and-cautery operation. No pain, nausea, or vomiting. After the operation, the highest temperature was 99.2° F.; pulse, 94; respiration, 22. Analgesia completely disappeared in two hours and fifteen minutes.

March 3d: No after-effects from the cocaine. Slept all night. March 20th: Patient's recovery has been uninterrupted. March 25th: Perfectly well.

Case XIV.—H. C., male, nineteen years of age; fairly well developed, feeble-minded, deaf and dumb, hydrocephalic. A blind external fistula *in ano*. Troubled with frequent formations of pus. Cocaine analgesia, March 2, 1901. Place of puncture, to the right between the third and fourth lumbar vertebræ. Amount of cocaine, twenty minims of a two-per-cent. solution. (The needle had to be passed in twice, as the first time it became occluded by a small blood-clot and the cerebrospinal fluid failed to flow.) Analgesia complete to the umbilicus in four minutes. Operation lasted twenty minutes, and consisted of a division of the sphincter ani and excision of the diseased tissue. Slight nausea and headache, but no vomiting; no pain. Before operation, temperature, 98.6° F.; pulse, 99; respiration, 22. Seven hours after the operation, temperature, 98.6° F.; pulse, 72; respiration, 20. Analgesia entirely disappeared in two hours and forty minutes.

March 3d: Patient seems perfectly well. No apparent after-effects from the cocaine. March 25th: Patient perfectly well.

Case XV.—A. S., female, thirteen years of age; marked idiocy. Gangrene of the left foot. General tuberculosis. Circulation poor and condition bad. Cocaine analgesia, March 7, 1901. Place of puncture to the right between the third and fourth lumbar vertebræ. Amount of cocaine, sixteen minims of a two-per-cent. solution. Analgesia complete to the level of the diaphragm in four minutes. Operation lasted twenty-eight minutes and consisted of an amputation of the leg at the junction of the middle and lower third. No pain or apparent discomfort of any kind. Tests showed that at the end of the operation analgesia was complete over the entire body, except the face, mouth and eyes. Before operation, temperature, 98.6° F.; pulse, 122; respiration, 34. Three hours after operation, temperature, 99.4° F.; pulse, 112; respiration, 36. Analgesia completely disappeared in two hours and twenty minutes from the completion of the injection.

March 8th: Patient retains strychnine, whiskey and fluid diet without difficulty. Com-

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fortable night. No nausea or vomiting during or since operation. March 14th: Patient doing well as could be expected. March 25th: Stump slowly healing.

Case XVI.—J. M., male, aged ten years, five months. General condition exceedingly bad. Highly neurotic. Advanced disease of left hip-joint, with a discharging sinus below Poupart's ligament, the opening of which is entirely too small. Has attacks now and again of precordial pain. Cocaine analgesia, March 12, 1901. Place of puncture to the right between the third and fourth lumbar. Amount of cocaine, twelve minims of a two-per-cent. solution. Analgesia to the level of the anterior superior spine in four minutes. The operation lasted four minutes, and consisted of an enlargement of the sinus and the making of a fresh opening for drainage over the trochanter major. At the completion of the operation, the analgesia had extended to the level of the diaphragm. No nausea, vomiting, pain, or discomfort. The patient left the operating-room evidently very little worse for the operation. Before operation, temperature, 99° F.; pulse, 94; respiration, 22. Two hours after the operation, temperature, 98° F.; pulse, 128; respiration, 48. Analgesia disappeared in one hour and a half from time of injection.

March 13th: Has been perfectly comfortable, having experienced no headache. Slept fairly well. Highest temperature, 104° F.; pulse, 150; respiration, 50. Retained strychnine and whiskey. March 14th: Complains of pain in leg. Seems weak, but otherwise well. March 15th: Feeling better. March 23d: Distinctly better than before the operation. No effects from cocaine. Slowly improving. March 28: Much better.

Case XVII.—R. K., male, aged ten years; general condition fair. Tuberculous caries of the ilium with inguinal sinus. Patient was operated on November 2, 1900, subarachnoid injection of cocaine being employed.[1] No effects from previous spinal injection. Improvement has been steady, but the external opening of the sinus is now insufficient for drainage purposes and there is more dead bone to be removed.

Cocaine analgesia, March 14, 1901. Place of puncture to the left between the third and fourth lumbar vertebræ. Amount of cocaine, twelve minims of a two-per-cent. solution. Analgesia to the level of the umbilicus in four minutes. Slight nausea and retching nine minutes after the injection. The operation lasted eight minutes and consisted of enlargement of the outlet of the sinus and removal of dead bone and necrotic tissue. No pain or discomfort. The patient was asked whether, remembering what he had been through before, he feared the operation. He replied, "No, I was not hurt the last time." One hour before the operation, temperature, 100.5° F.; pulse, 90; respiration, 22. Five and a half hours after the operation, temperature, 100.4° F.; pulse, 98; respiration, 22. Analgesia disappeared entirely in one hour and a quarter after the injection.

March 15th: Considerable headache. Vomited several times last night and this morning. March 16th: Effects of the spinal injection entirely gone. March 28: Patient up and about. Doing well.

Case XVIII.—J. O., male, aged ten years; general condition good. Has had several attacks of tuberculosis of the skin which have been successfully treated by excision or cauterization. Has some new areas which have freshly broken out in the neighborhood of the old scars of the left leg and thigh.

Cocaine analgesia, March 21, 1901. Amount of cocaine, ten minims of a two-per-cent. solution. Analgesia to the level of the diaphragm in three minutes after the injection. Vomited three minutes later. Operation lasted nine minutes and consisted of the excision of the ulcerated tissue with the free use of the cautery along the edges and on the surface of the ulcers. No pain or discomfort during the operation, but immediately afterward a slight frontal headache was noted. Patient was thoroughly tested and it was found that the muscular sense, the ability to detect heat and cold and tactile sensibility were not lost. He was able to stand without difficulty and walk across the room. Before operation, temperature, 100° F.; pulse, 108; respiration, 22. Nine hours after the operation, temperature, 100° F.; pulse, 88; respiration, 22. Analgesia entirely disappeared in one hour and a half. Vomited three times during first six hours. Severe headache. Cried out with pain. Hypodermic injection of $^1/_{100}$ of a grain of nitroglycerin gave immediate relief and patient slept three hours.

March 22d: Slept well all night. March 24th: Normal condition except dizziness while walking. March 26th: No effects from cocaine. April 1st: Doing well.

Case XIX.—K. M., female, aged thirteen years; marked idiocy with epilepsy. Bad general condition. Phthisis pulmonalis. Circulation very poor in all extremities. Deep fetid gangrenous ulcer on the dorsum of the foot, which refuses to heal and is steadily increasing in size. Something must be done. Slowly getting worse. Cocaine analgesia, March 1, 1901. Place of puncture, between the third and fourth lumbar vertebræ. Amount of cocaine, fifteen minims of a two-per-cent. solution. Analgesia complete to the level of the umbilicus in three minutes. Operation lasted fifteen minutes, and consisted of the Chopart's amputation. No apparent pain. No nausea or vomiting. Before operation, temperature, 98.5° F.; pulse, 92; respiration, 22. Three hours after operation, temperature, 98° F.; pulse, 72; respiration, 26. During the evening had an epileptic seizure which lasted some minutes.

March 2d: Taking small doses of codeia, strychnine and whiskey. Quiet. March 3d: Do-

[1] For report of previous operation, see *Medical Record*, Vol. LVIII., No. 24, p. 937.

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ing as well as could be expected. March 16th: Stump almost healed. March 18th: Refuses to take nourishment. General condition getting worse. March 20th: Phthisis increasing. March 21st: Pulmonary hemorrhages. March 22d: Died.

Case XX.[1]—A. F., male, aged eleven years; general condition fair. Spinal curvature. Tuberculous sinus of knee. Cocaine analgesia, February 15, 1901. Point of puncture in the lower lumbar region. Because of the kyphosis the needle had to be introduced in a very oblique direction. Amount of cocaine, fifteen minims of a two-per-cent. solution. Analgesia to the level of the navel in eight minutes. Operation consisted of enlargement of the sinus and the removal of some dead bone. Four hours before operation, temperature, 99° F.; pulse, 106; respiration, 24. Two hours after operation, temperature, 99.2° F.; pulse, 98; respiration, 22. No pain, nausea, or vomiting. In one hour and fifty-five minutes analgesia completely disappeared.

February 16th: Slept well. Very comfortable. February 17th: Patient up and about feeling perfectly well. March 28th: Sinus almost healed. Recovery uneventful.

The fact that in several cases there had been analgesia above the level of the diaphragm led to attempts to operate upon the upper extremities. The following cases show what success was attained.

Case XXI.—E. J., male, aged nine years and nine months, fair general condition, highly neurotic, advanced tubercular arthritis of the left elbow. October 6, 1899, resection of elbow under ether, took anesthetic badly from the first. As small amount of ether given as possible. The operation was completed with difficulty and before the patient was removed to the ward active stimulation and inversion of the body with artificial respiration were necessary. The respiratory center seemed almost paralyzed. For some hours the patient's condition was considered bad. November 18th: Wound healed well, except a small sinus over the lower end of the humerus.

Cocaine analgesia, November 19, 1900.[2] (*a*) Place of puncture to the right between the second and third lumbar vertebræ. Amount of cocaine, five minims of a one-per-cent. solution. At the end of sixteen minutes from the time of injection no analgesia had become evident. (*b*) Second injection at the site of the first. Amount of cocaine, seven minims of a one-per-cent. solution. No analgesia fifteen and a half minutes from the second injection. (*c*) Third injection to the left between the second and third lumbar vertebræ. Amount of cocaine, eight minims of a one-per-cent. solution. Vomited in two and a half minutes. Presented the same symptoms as in other cases, except there was no true analgesia. Operation was postponed. Before operation, temperature, 98.6° F.; pulse, 96; respiration, 24. Three hours after the last injection, temperature, 99.4° F.; pulse, 116; respiration, 32. Very restless during the afternoon. Complained of headache. Some vomiting.

(The remainder of the solution which was used in this case was carefully tested. It was found to be practically inert. This was the only case where heat was used in the method of sterilization of the cocaine. The second operation was done under the same supply of the drug, except prepared by the ether method.)

Case XXII.—Same patient; general condition good. Small sinus over the end of the left humerus continues to discharge. Cocaine analgesia, February 13, 1901. Place of puncture to the right between the third and fourth lumbar vertebræ. Amount of cocaine, eight minims of a two-per-cent. solution. In three minutes analgesia complete to a point midway between the ensiform cartilage and the umbilicus. At the end of seven minutes nausea and retching for a moment. In nine minutes analgesia complete over the entire body, including the mouth and tongue. Operation lasted seven minutes and consisted of an enlargement of the sinus and the removal of dead bone and tuberculous tissue. Patient was quiet and experienced no pain. One hour before operation, temperature, 99° F.; pulse, 100; respiration, 22. One hour after operation, temperature, 99° F.; pulse, 98; respiration, 26. Highest temperature since the operation, 102° F.; pulse, 108; respiration, 26. At the end of twenty minutes from the time of the injection the analgesia began to disappear about the shoulders and head. Analgesia completely disappeared in one hour and ten minutes. No nausea or vomiting following the operation.

February 14th: Slept well. No nausea, vomiting or headache. Temperature, 99.2° F.; pulse, 94; respiration, 24. February 15th: As well in every respect as before the operation. March 28th: Patient's condition continues normal.

Case XXIII.—A. W., male, aged eleven years. Very poor general condition. Has tertiary syphilis and multiple tuberculous sinuses of the left lower arm and forearm with extensive caries. For months an effort has been made to save the extremity. In spite of tonics there was some diminution in flesh and strength. His condition growing worse. Amputation seems indicated. Cocaine analgesia, February 15, 1901. (*a*) Place of puncture to the right between the third and fourth lumbar vertebræ. Amount of cocaine, twenty minims of a two-per-cent. solution. Analgesia at the end of fifteen minutes not being above the level of the hips, a second injection was determined upon. (*b*) Place of puncture to the left between the third and fourth lumbar vertebræ. Amount of cocaine, ten minims of a two-per-cent. solution. Six minutes after the second injection analgesia was absolute below the umbilicus. As the analgesia did not extend into the upper extremity, amputation was de-

[1] For previous operation under eucain analgesia, see Medical Record, Vol. LVIII., No. 24, page 939.

[2] Reported in a discussion at a meeting of the Medical Association of the Greater City of New York, Dec. 10, 1900.

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ferred, it being thought best not to increase further the amount of cocaine which the patient had already received. To have pushed the dose further for experimental purposes would have been interesting, but hardly just under the circumstances. Patient was returned to the ward apparently not affected deleteriously by the injections. Temperature before injection, 99° F.; pulse, 90; respiration, 22. Five hours after operation, temperature, 100° F.; pulse, 122; respiration, 24. There was no nausea or vomiting, and not even pain when the needle was pushed deeply into the analgesic areas. Analgesia totally disappeared in about two hours.

February 16th: Has had no after-effects from the cocaine; slept all night. February 18th: Is in as good a condition as before the injection. February 27th: Chloroform administered, and left arm amputated in its upper third. Enlarged glands in the left axilla removed. March 28th: Patient's general condition has greatly improved since the removal of the arm. Stump practically healed.

Case XXIV.—S. B., female, aged seventeen years (appears at least nineteen). Strong healthy girl suffering from idiocy and sub-acute cellulitis of the left thumb with necrosis. Cocaine analgesia, March 14, 1901. Place of puncture to the left between the second and third lumbar vertebræ. Amount of cocaine, thirty-two minims of a two-per-cent. solution. Analgesia to the level of the hip-joints in five minutes. After fourteen minutes, analgesia complete to the level of the clavicles, in front and behind, including the upper extremities. The operation lasted fourteen minutes, and consisted of an amputation of the left thumb at the lower third of the metacarpal bone. No pain during the incision of the soft parts, but the cutting of the bone evidently slightly painful, although insufficient to cause the patient to withdraw the hand from the surgeon. (During the severing of the soft tissues the patient sang the National air.) At the close of the operation there was some retching, but no emesis. The patient was sent to the ward in good condition, with the analgesia still as complete as at the beginning of the operation. Pain sense returned in one hour. Before the operation, temperature, 98.6° F.; pulse, 94; respiration, 22. Six hours after operation, temperature, 104° F.; pulse, 122; respiration, 24.

March 15th: Patient has experienced absolutely no after-effects of the cocaine, with the exception of a slight headache. March 19th: Patient up and about. Seems perfectly well. Wound healing nicely. March 28: Convalescence uneventful. Stump healed.

General Remarks.

The cases thus described have not been specially selected. Some have been decidedly unfavorable for any operative procedure, and in a few the operation was at best a forlorn hope. By thus testing this method in all sorts of conditions, its proper position will be more quickly established.

No difficulty has been experienced in introducing the needle either in adults or in children. A few times the needle has been clogged by a small blood-clot while the instrument passed through the soft tissues, before entering the spinal canal; examples, Cases II., XI., XIV. A few experimenters, at such times, use the stylet, pushing into the intra-dural cavity whatever is in the needle. This is certainly to be condemned. The withdrawal of the instrument and a fresh introduction is the better plan.

Summary of Fifty Cases.

The following conclusions are made from fifty cases, the above being included in that number:

1. Cocaine is far more satisfactory than eucain. The latter is less potent, more evanescent, the areas of analgesia are frequently "patchy," having the pain sense retained all around them and not being so complete below definite levels. The cocaine produces no more unpleasant after-effects than eucain and is decidedly more reliable.

2. Analgesia to the level of the diaphragm can be depended upon in all cases where a moderate dose of a potent solution of cocaine has been introduced by lumbar puncture. In some the analgesia is sufficient for operation on the upper extremities; examples, Cases IX., XV., XXII., and XXIV.

3. Complete analgesia, including the eyes, mouth and throat has occurred; example, Case IX. It does not entail more severe after-effects than when the lower extremities only are involved.

4. The preparation of the patient as for a general anesthetic diminishes all the unpleasant effects of cocaine and eucain and often prevents them altogether.

5. By moderate doses of bromides before the injection the initial vomiting is frequently avoided and the liability of headache lessened.

6. In neurotic patients there are often hysterical symptoms directly following the completion of the injection, but, as a rule, in a few moments a calm follows and the patient lies perfectly still.

7. Initial nausea and vomiting often occur soon after the puncture, but last only for a moment or two, and usually do not recur during the operation. As consciousness, as well as the muscular power, is preserved, the danger of the introduction of the vomitus into the lungs is practically *nil.*

8. Analgesia lasts from thirty minutes to four hours.

9. Depression after the puncture is inconsiderable. The use of ethyl chloride (Bengue) largely prevents pain when the needle is introduced.

10. The preparation of the patient, the use of nitroglycerin by hypodermatic injection, or the employment of coal-tar products with caffeine,

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control the headache, which is in many instances an after-effect of spinal puncture.

11. In a few cases there may be motor paraplegia or vertigo. Both are temporary. Example, Case XI.

12. Spinal puncture has not affected normal or diseased kidneys.

13. Usually the tactile power, muscular sense, and the ability to detect heat and cold are retained. The cautery at a dull red heat causes no pain, while hot water produces marked discomfort.

14. Usually the patient sleeps the first night.

15. There is often a temperature of a few degrees within eight or ten hours of the operation. Whether this is the direct result of the puncture or the effect of psychic disturbances is not determined. The circulation and respiration are not seriously embarrassed.

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SOME SOURCES OF ERROR IN LABORATORY CLINICAL DIAGNOSIS.

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ONE of the most noticeable developments in medical practice during the last quarter century has been the widespread application of the methods of the natural sciences to the solution of every-day diagnostic problems. The chemical analysis of the secretions and excretions, the microscopical examination of the blood, the search for the bacterial causes of disease by staining and culture have become familiar to us all.

Such advances in knowledge must of necessity lead to greater accuracy in diagnosis, but they cannot, as many think, make an easier road to it. On the contrary each new method requires added skill and added knowledge and can never supplant, but only supplement the old. The foundation must be anatomical in the diagnosis, as in the study of disease, and without physical exploration no investigation of function can be of service. I think the time has come to emphasize the fact that clinical diagnoses cannot be made in the laboratory. A diagnosis must be individual and comprehensive and attained not by analysis alone, but by analysis and synthesis. Only the clinician is in a position to balance all the facts in a given case and to determine their relation to one another. Therefore the first requisite for a diagnostician is not technical skill, but a judicial mind, capable of weighing the value of evidence.

"Sine diagnosis nulla therapeia" is a trite quotation; each of us who undertakes the treatment of disease must be a diagnostician—or a charlatan—none of the latter, I feel confident, will read these words. Therefore as practitioners we must utilize, so far as possible, the results which the laboratory can furnish us. Some of the methods are of such a nature that any one can use them in his office. Of these he must know the limitations and possible errors inherent in the methods themselves. Others require an amount of time, apparatus and technical skill which places them beyond the reach of all but special laboratory workers. Here the practising physician should know the worth of their findings as positive or negative evidence.

It is evident from this that the sources of possible error in the application of laboratory methods to diagnosis are twofold; those due to the methods themselves or faulty technic in their use, and those due to inaccurate reasoning from accurate results. The writer has been fortunate in the opportunity of making, wholly or in part, some fifteen to eighteen hundred laboratory examinations a year for several years, in the consulting practice of his father, where his results were controlled by clinical observation which was available to him. He has thus obtained so large a personal experience of the possible sources of error that he has thought a consideration of the more common ones might prove helpful.

Examination of Urine.—The greatest value of the examination of the urine undoubtedly lies in the direct evidence it may afford of disease in the kidney or urinary passages and of diabetes. To most practitioners this means the application of the familiar tests for the presence of albumin and sugar. They are certainly the foundation of clinical urine analysis and will be considered seriatim.

Tests for Albumin.—Those in most common use are the cold nitric-acid ring test (Heller's), boiling with the addition of acetic or a drop of nitric acid (heat and acid), and the acetic acid and potassium ferrocyanide test. Other reagents less frequently employed are trichloracetic acid, picric acid, bichloride of merury in Spiegler's test and potassio-mercuric iodide in Tanret's reagent.

Errors in Technic.—The most conspicuous of these is a failure to filter the urine. It is absolutely impossible to make a delicate test in an unfiltered urine or with turbid solutions. In the ring tests there must be a sharp line of demarcation between the solution and the reagent. The presence of bile or of urates in large amount renders Heller's test almost useless. Where there is any possibility of the occurrence of albumose, the tube should be warmed, an albumose ring being dissolved while an albumin ring is unaffected by heat. The same holds good for the rings formed by certain drugs, the balsams and rhubarb especially. These, in addition to their disappearance on heating, are usually of a reddish or brown color. The turbidity produced by urates is never at the line of junction of the acid and urine, but forms from above downward. Heller's reaction, in the case of small quantities of albumin, may take as much as fifteen minutes to develop, and the tubes should

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not be discarded within that time. In the heat and acid test, the upper layer of urine in a long test tube should be boiled and the acid added and a comparison made with the clear urine below. The faintest turbidity can be detected by examining the tube against a black background —a small book answers excellently—between the tube and the window. With light falling from behind the examiner the test is much less delicate. Tests made by dropping the solution into the urine should always be judged by the side of a tube of filtered urine. Finally, the acetic-acid and ferrocyanide test needs an especial check, that is, comparison, not with clear urine, but with urine to which acetic acid alone has been added. The addition of acetic acid and subsequent filtration has never been of service to me, as the acetic-acid precipitate passes through the best filter paper I have been able to obtain. Both of these reactions can be clearly brought out by the contact method, the acetic acid and solution of potassium ferrocyanide being mixed in proportion of one part of the first to two of the latter. The ring should always be compared with that developed by acetic acid alone. Made with these precautions, a positive result, that is a greater turbidity of an actual precipitate in the urine tested, or a ring in the case of those tests, indicates the presence of some proteid body.

Errors Inherent in the Methods Themselves.—Unfortunately our knowledge of the proteids appearing in the urine is very incomplete. Nucleo-albumin is of the most frequent occurrence, trace of it being demonstrable in nearly every urine as a faint cloud on the addition of acetic acid, with dilution if the urine be concentrated. Next come serum albumin and globulin, the presence of which in spite of the old classification of a certain group of cases as "physiological albuminuria," must probably always be regarded as pathological in the strict sense. Fibrin and fibrinogen, albumoses, egg albumin and casein have been found in special conditions. Perhaps the globulins of the urine are not all the normal serum globulin. The practical problem, therefore, in the diagnosis of disease of the urinary apparatus is the detection of serum albumin and globulin, which can be classed together, and possibly of abnormally large amounts of nucleo-albumin.

What is the value of the common tests for the detection of these albumins? Nucleo-albumin alone is precipitated by an excess of acetic acid in the cold and this test gives positive evidence of its presence. Only very marked turbidity is of any practical importance and this mainly from the error it may introduce into the other tests. In my experience the most reliable of these are Heller's, the acetic acid and potas. ferrocyanide and the heat and acid tests. The ferrocyanide test, made as described, in comparison with the cold acetic-acid test, probably gives the strongest positive evidence of the presence of albumin, but it is the least delicate and the most cumbersome. The heat and acetic-acid test in a proper light is in my opinion the most delicate and the easiest of application, trichloracetic acid and Spiegler's and Tanret's reagents equaling it, but offering no advantage. The absence of any haziness with this test I consider absolute evidence of the absence of albumin. A positive reaction, however, which I find in at least nine out of every ten urines examined, if slight is probably due to nucleo-albumin and is of no significance. Marked turbidity or a flocculent precipitate affords definite positive information. As a general test, Heller's is undoubtedly the most useful. I have seen instances where I felt sure that a faint ring was due to nucleo-albumin, as I obtained a stronger one with acetic acid used in a similar way and had no deepening of the acetic acid turbidity on the addition of potas. ferrocyanide; but these cases are of great rarity. Sahli says that nucleo-albumin may respond to Heller's test. Almost always, however, a true ring, even the most delicate, indicates pathological albumin and its absence, under the precautions given, is valid negative evidence so far as appreciable quantities are concerned.

Significance of the Findings.—May any conclusions be drawn from the presence of albumin in the urine? Emphatically none, except that an albuminous urine is not normal, and therefore a further investigation by other methods must be instituted to determine its source. This may be from inflammatory conditions or hemorrhage anywhere in the urinary tract, from congestion, from admixture with menstrual flow, etc. The microscope gives the most evidence on this point, but the whole examination furnishes subsidiary information. On the other hand, the absence of albumin at one, or even repeated examinations does not at all preclude the existence of kidney disease. The contracting kidney frequently fails for considerable periods to give an albuminous urine. I have seen several cases, within only a week or so, of definite uremic attacks, where the urine was normal. Waxy kidney has been reported without albumin in the urine. Acute nephritis is, of course, excluded by its absence. The greatest significance of a negative test is, however, in cardiac cases, in which it gives evidence of the absence of congestion of the kidney and makes a more hopeful prognosis.

Tests for Sugar.—I think few physicians who have not examined many hundred urines appreciate the numerous errors into which one may be led by that universally employed reagent, Fehling's solution. It is the most delicate test for sugar and certainly the most useful for just one purpose—to exclude its presence. I wish to lay particular stress upon that point, for it has been forced upon me unwillingly. Every one knows that various drugs, rhubarb, salicylates, camphor, chloral hydrate, some of the coal tar series and alkaloids, etc., and even the abundant urates of a concentrated urine, will give some sort of reduction, but until recently I had felt that I could distinguish in most cases between these spurious reactions and the real sugar re-

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duction. Unfortunately, a number of careful comparative tests have made me certain that it is impossible, and I now use the test solely for the negative evidence it may afford. No reduction with Fehling's solution invariably means no sugar, a reduction merely indicates the necessity for applying further tests. Therefore I will not take time to speak of wrong methods in using Fehling's solution, for from this standpoint they are unimportant.

The tests which do give positive indications of the presence of sugar are the polariscope, fermentation and the phenyl-hydrazin reaction. The first of these is little used clinically, being too expensive and too cumbersome for most physicians. The second is simple, reliable if one is careful to use fresh yeast and stand the tube twenty-four hours in a warm place and has the advantage, when the Einhorn tubes are used, of affording a quantitative determination, sufficiently accurate for clinical purposes. Where this is desired care must be taken that the urine does not contain over 1 per cent. of sugar, the necessary accurate dilution being made to bring it down to this. The only objection to the method is its slowness and its lack of delicacy.

The phenyl-hydrazin test, when applied after the method of A. Kowarski (*Berl. klin. Woch.*, Nov. 26, 1900), is a rapid means of determining the presence of sugar. The employment of phenyl-hydrazin-hydrochloride and sodium acetate as ordinarily given is most unsatisfactory, but the use of pure phenyl-hydrazin, 5 drops, glacial acetic acid, 10 drops, and sat. sol. sodium chloride, 1 cc. to 3 cc. of urine, boiling vigorously two minutes and letting cool slowly in the air, has given me most excellent results. For bringing to my knowledge this manner of performing the test I have to thank Profs. E. K. Dunham and John A. Mandel.

Significance of Sugar.—I only wish to state briefly what is now becoming well recognized, namely, that the presence of sugar in the urine does not constitute diabetes. Only the persistence of sugar after the reduction of the carbohydrates in the diet to a small amount can warrant that diagnosis. For the discussion of alimentary glycosuria and the other more transient forms I would refer to the books upon that subject, especially to Von Noorden's last edition of his work, "Die Zuckerkrankheit und ihre Behandlung."

Quantitative Urine Analysis.—Many physicians appreciate that quantitative estimations demand a sample of mixed twenty-four-hour urine for their performance, but do not realize that even the most ordinary test is of little value if made with the urine passed at one time alone. Unless a fairly representative specimen of the daily excretion is obtained no conclusions at all can be drawn from the absence of sugar or albumin, nor can much be inferred from their presence. A representative specimen should mean the mixed urines passed on at least three different occasions during at least twelve hours. An excellent method, where a twenty-four-hour specimen cannot be obtained, is to take equal parts of the water passed in the late afternoon, before retiring and on rising in the morning. Even with such a specimen, however, careful quantitative methods should not be used, as the results may be misleading. The simplest quantitative method, and it is strictly such, is the estimation of the specific gravity. The only common source of error in the use of the urinometer is a neglect to make the correction necessary for changes in temperature. The instruments are graduated at a certain temperature, usually at 15° C. (59° F.), while the average room temperature is 20° C. (68° F.). The correction being 1 for every 3° C. (5.4° F.), a urine giving a reading of 1,012 at 68° F. with one of these instruments really has a specific gravity of 1,015. Beside this it should be borne in mind that quantity and specific gravity bear an inverse relation to one another and are meaningless when considered alone. The two together give the total solids excreted.

Obtaining an accurate twenty-four-hour specimen from patients not confined to bed is a matter of considerable difficulty. In spite of all explanations they often will not use the requisite care. This at the outset introduces a possible error into all quantitative methods employed, and it is to my mind an explanation of some of the anomalous results obtained.

One of the commonest errors in connection with the specific gravity is to conclude that a urine does not contain sugar if it is below some arbitrary point, 1,030 or 1,025 or even 1,020. Some such rule is a tradition in many hospitals and its fallaciousness should be understood. I have seen sugar urines a number of times with a gravity of 1,015. Some have contained not traces, but as much as 1 per cent. of glucose. Another mistake of opposite character is the failure to recognize the significance of urine of constant low gravity and increased quantity, if albumin be not present. Such urine points strongly to the existence of the contracting kidney, one of the most frequent types of chronic Bright's disease, and should always lead to a thorough examination of the patient, especially with reference to the presence of a hypertrophied heart and high arterial tension.

The quantitative determination of urea, or rather total nitrogen, by the hypobromite method, as in the Doremus, Squibb and other uremometers, is simple and sufficiently accurate for clinical purposes. Only the total amount excreted in twenty-four hours is of any value. The most frequent cause of inaccuracy comes from decomposition of a twenty-four-hour specimen in hot weather, the loss from this being considerable. The urea execretion is so closely dependent upon the diet and other factors that I consider it a mistake to draw many conclusions even from a much reduced amount at a single examination. For practical purposes the total

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solids, as indicated by the quantity specific gravity ratio, afford as much and less often misleading information.

Occasional Tests in Common Use.—Of these the Ehrlich diazo-reaction and the tests for bile and indican are most frequently employed. The limits within which the first mentioned can be utilized for the early diagnosis of typhoid fever are becoming well recognized. Emphasis should be laid upon its being considered as corroborative evidence of typhoid only when found in the first week or ten days of a febrile affection.

The tests for bile are apt to be conspicuous by their absence. Small amounts of bile in the urine can be easily detected by Gmelin's test and should always be suspected when the foam is at all yellow. The staining of cells and casts yellow, as seen under the microscope, is an excellent indication of its presence. The finding of bile is important for diagnosis and it should not be overlooked.

The practical value of the examination for indican is so slight and the diagnostic problems connected with it are so complicated that I shall not speak of it.

Microscopical Examination.—No error could be greater than to consider any urine examination complete without the use of the microscope. A thorough microscopical examination requires a proper collection of the sediment, preferably by centrifugalizing, or if that is impossible by allowing the urine to stand at least six hours in a conical glass. Many things of importance will be overlooked if this is not made a matter of routine, notably casts, when not numerous, and a few red blood-cells, which in many cases aid greatly in the discovery of renal calculus as the cause of obscure one-sided pain in the back or abdomen. This condition I am confident is frequently overlooked. The foreign substances which find their way into specimens are many and often lead to confusion; but it is not within the scope of this article to treat of the possible errors in observation. Only a personal experience can teach one their nature. Certain points, on the other hand, which have made a considerable impression upon me, do not seem adequately brought out in the current text-books. One of these is the occurrence of calcium oxalate in a form which closely resembles a red blood-corpuscle in size and shape. It appears perfectly circular and can only be distinguished by its darker more refractile outline, its greater variation in size and usually by the presence of a dark dot at the center. The association of typical octahedra is helpful, but blood-cells may be present as well, and close observation is necessary to be sure of a discrimination. Certain yeast (torulæ) may also be confused with red cells, unless one notes the budding forms. Another point is a simple method for getting rid of the excess of amorphous urate deposit, which in winter often obscures everything in the microscopic preparation. I pipette off the sediment from the urine into a test tube, add an equal volume of water, warm gently until the urate cloud disappears and then centrifugalize. Simply warming will not prevent the rapid reappearance of the turbidity, but the dilution has always answered to keep all in solution. This method is, of course, chiefly of use when all the sediment can be quickly recovered with the cenrifuge, but could be applied in a conical glass by using larger quantities.

The presence of casts without albumin has been denied by Simon, who says that he has never met with the condition since using the trichloracetic acid test. The occurrence is undoubtedly of considerable rarity, but I have met with several cases in which I used particular pains in applying the trichloracetic acid test, and could not elicit even a faint haziness. Such findings illustrate the necessity for making one's observations all independent of each other.

The examination of urine for tubercle bacilli should not be undertaken by any one who has not had considerable experience in the identification of the tubercle bacillus in sputum, etc. Much is said of the possibility of confusion with the smegma bacillus and the inadequacy of any method except animal inoculation for their differentiation. I do not feel qualified to speak on this point, for I have not yet met with tubercle-like bacilli except in cases of clinical genito-urinary tuberculosis.

Urinary Diagnosis.—Given accurate and complete observations, are errors in diagnosis often made? Some, I fear; especially when the clinical signs and symptoms are not given their due importance. Glycosuria, for instance, is too often called diabetes. The presence of albumin and casts is frequently considered direct evidence of nephritis, when it may be but the sequence of congestion dependent upon a weak right heart, primary, or secondary to mitral or lung lesions. A few casts may cause an albuminuria to be thought of renal origin, when the presence of blood-cells or pus-cells, if given just weight, might place the more important lesion in the pelvis of the kidney or bladder. Such mistakes are always possible to one who seeks a diagnosis from less than a complete consideration of the whole case, and this cannot be obtained in the laboratory.

Examination of Sputum.—Many physicians fail to realize that except in the diagnosis of tuberculous disease, the microscopical investigation of the sputum can give any information of practical value. I should be glad to call their attention to the frequent help that examination of the unstained expectoration may afford. The association with asthma of Charcot-Leyden crystals, more rarely of Kurschmann's spirals, is a strong point in its diagnosis. The more recently described occurrence of large numbers of eosinophilic cells in asthma sputum is still more striking and the double-staining, with eosin and methylene blue necessary to demonstrate them, is simple. The condition most frequently confused with phthisis is the chronic congestion of the lungs due to mitral disease, especially mitral

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stenosis. These cases have continued cough, dyspnea, often hemoptysis and loss of weight. The physical exploration of the lungs will not afford any reliable evidence for differential diagnosis; that of the heart, if mitial stenosis be discovered, makes tuberculosis improbable. The sputum, however, gives the most definite information and that not alone by the absence of tubercle bacilli, but by the strong positive evidence of the large cells filled with brownish pigment, which are usually present in considerable number.

Staining for pneumococcus and streptococcus, Pfeiffer's influenza bacillus, etc., has not demonstrated any great practical result, the clinical diagnosis being more satisfactorily made from the other features of the diseases. Rare organisms, such as streptothrix and actinomyces, ova, etc., occasionally give the clue to unusual conditions and should be considered where no ordinary cause can be determined for marked pathological changes in the lungs. In the same category should be placed malignant growths, which, however, seldom give aught but negative evidence in the sputum.

Staining the Tubercle Bacillus.—The common methods, Ziehl-Nielson, Gabbett's, etc., need only to be used accurately to give satisfactory results, but careless staining is a simple waste of time. The most frequent faults are insufficient staining, which leads to a failure to find the bacillus, and incomplete decolorization, which invites confusion with other organisms retaining the red color. The latter is the more serious mistake. If it be borne in mind that the bacillus tuberculosis has a distinct form and that it is as erroneous to call any bacillus of red color the tubercle bacillus as to call any white animal a polar bear, the chance of error would be materially diminished. The use of dirty cover-glasses and slides, needles or dishes may account for some reports of tubercle bacilli in cases which have proven the falsity of the microscopical diagnosis. I do not believe that any slide, cover or receptacle for the sputum should ever be cleaned and used again for this purpose, as the seriousness of the question at issue, to my mind, outweighs any considerations of petty economy. In receiving reports from another examiner, especially from a large laboratory, the physician should always bear in mind the possibility even of clerical error or substitution of one specimen for another, where the microscopical belies the clinical diagnosis.

The more common negative report, where tuberculosis is unquestioned, arises oftenest from the examination of sputum which has not come from the chest, either because the patient has failed to bring a proper specimen, or the examiner has not selected a proper portion for spreading. Patients should be carefully instructed to bring sputum raised from deep in the chest, the early morning secretion is usually best, and no pains should be spared to pick out one of the little grayish particles, or lacking this some muco-purulent streak. This can only be done from a thin layer of expectoration on a black ground. I know nothing more satisfactory for this work than the turned wood sputum boxes, with a water-tight black varnish inside, designed by Dr. Stuart Hart and sold by Lincoln & Luchesi. They, with their contents, are burned after examination. With these precautions, a negative result will be less frequent; but there are undoubtedly a fair number of cases of pulmonary tuberculosis in which tubercle bacilli cannot be demonstrated, even after several examinations. Therefore it should always be borne in mind that only positive findings, free from sources of error, are of absolute diagnostic significance.

Examination of Blood.—The value of the study of the blood as an aid to diagnosis has been fully demonstrated within the last few years. Its practice, however, requires a trained microscopist, and the majority of practitioners are forced to have recourse to the laboratory specialist to make such examinations for them. Unfortunately, all who are now willing to undertake blood examinations have not reached the superhuman condition of infallibility, though their reports are apt to be considered final. The practitioner here, as elsewhere, should accept no diagnosis without a full consideration of the clinical evidence and should be able to understand the results, if not to practise the methods of hematological work.

Quantitative Methods.—The ones in common use are those for the estimation of hemoglobin and specific gravity and the counting of the red and white corpuscles.

Errors in the Use of the Methods.—The error incident to any test which requires the matching of shades of color is naturally considerable and varies with different persons. The determination of the percentage of hemoglobin by the ordinary methods, Von Fleischl, Gowers, etc., therefore, can only be approximate, but in most cases is sufficiently accurate for clinical purposes. I have never thought the specific-gravity method an efficient substitute, and the improved Von Fleischl-Miescher hemoglobinometer requires much more time than its results are worth. In cases showing a very low hemoglobin content the error is much increased. Some bloods also are of a color impossible to compare with the standard; this is especially notable in leucemia, the results here being almost worthless. The counting methods are much more accurate and in careful and practised hands their results can be accepted without hesitation for the drop of blood examined. Much is said in books of the necessity for scrupulous cleanliness in order to obtain absolute contact between cover and slide in the Thoma-Zeiss hematocytometer. Cleanliness is of course essential, but the greatest obstacle to the attainment of the desired Newton's rings I have found to be, not a thin film of grease, but large obvious particles of dust. For this reason I have for several years made a camel's hair brush an essential part of the outfit for

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blood-counting, and by dusting slide and cover with it just before using, perfect contact is obtained. I consider it one of my most useful instruments, for it stands me in equally good stead in making blood-films for staining or examination in the fresh state.

Morphological Examination.—This, whether in the fresh state, or by the various general and special staining methods is an essential part of any blood-examination. Without it no count has any value. In this way only can leucemia be differentiated from a leucocytosis, or the malarial organism be discovered, or the diagnosis of pernicious anemia be confirmed. The faults in the preparation of stained specimens can only be learned by personal experience, and the same is true of most of the errors in observation. A few of them may, however, be advantageously pointed out.

Errors of Observation.—The most common of these center around the malarial organism. What I have said of the tubercle bacillus applies with equal force here. The malarial organism has a definite form at each period of its development and no one should attempt its identification without familiarity with its characteristics. The common vacuoles within red cells, blood-plates, masses of extraneous dirt, are too often called plasmodia, and that in cases where good clinical observation should make a diagnosis of malaria untenable. On the other hand, the small hyaline forms are frequently overlooked and crescents may be so rare that several examinations are needed to discover them. Only a very competent observer should make a diagnosis from the presence of unpigmented or extracorpuscular forms, except the crescents and ovoids. The new polychrome methylene-blue stain just perfected by Dr. L. B. Goldhorn places the staining of the chromatin of the parasite within the ability of all and should safeguard from many former errors. One cause of failure to find the organisms may be the selection of a wrong time for the search. The most favorable time is usually about eight hours before the chill, the parasites accumulating more in the internal organs at the time of segmentation. In doubtful cases examinations should be made at different periods. In the estivo-autumnal form even the best microscopist may be unable to arrive at a diagnosis for several days, as the parasites may be extremely scarce in the peripheral circulation.

Errors of observation regarding the classification of nucleated red cells and of leucocytes are possible, but fortunately untrained men less frequently attempt the diagnosis of the anemias. Even among hematologists there is not a unaminity of opinion regarding the exact limits of certain of the cell forms. The differentiation of leucemia from leucocytosis should, however, be made by even a novice in blood-work, if he will only bear in mind that the increase in leucocytosis involves the polymorphonuclear, in the leucemias, the mononuclear leucocytes. The Widal reaction and blood-cultures should not be attempted outside of a well-equipped bacteriological laboratory.

Errors in Estimating the Value of the Evidence Obtainable From Examination of the Blood.—These are frequent and at times serious. In the first rank come the mistakes in the diagnosis of febrile affections, especially when remittent or intermittent in type and unaccompanied by well-marked local symptoms. In this class of cases the blood-examination may be of great assistance. Finding the malarial organism makes, of course, a positive diagnosis. A negative result, however, has only a relative value, depending on the care of the observer and the corroborative findings. A definite leucocytosis combined with an absence of plasmodia is the strongest evidence against the existence of malarial infection and should discredit the diagnosis of malaria in almost every case. The leucocytes should always be counted when the parasite is not found. On the other hand, if there be no leucocyte increase, the question of typhoid fever or tuberculosis arises, especially the former. The Widal reaction should then be tried, but unfortunately it is absent in many cases of typhoid fever during the early period when the diagnosis is doubtful, and a negative test has absolutely no value as evidence. In such cases cultures from the stools and the diazo-reaction in the urine may prove useful, but the clinical course, properly studied, will afford the most reliable indications.

A marked leucocytosis is a sign which should never be neglected. In continued fevers it always points to the existence of sepsis, and unless there are well-marked complications of an inflammatory nature it should lead to a careful revision of a diagnosis of typhoid fever. In these cases of obscure septic conditions errors are common and every means of investigation should be used. In the decision as to operation for supposed appendicitis, I am convinced that the count of the white cells, especially as to an increasing leucocytosis, should be given more weight than at present. Unfortunately, leucocytosis cannot be accorded implicit confidence as a sign of inflammatory trouble. On one hand, it is from time to time absent in severe cases, as, for instance, of general peritonitis or pneumonia or diphtheria; in quite a proportion of patients with ulcerative endocarditis I have failed to find it; on the other hand, very exceptionally, it is found in early typhoid fever. But in the main he who avails himself of the information the white cells afford will avoid far more errors than he will fall into.

The value of the Widal reaction has been so much discussed in special papers that I will not speak of it, except to call attention to the possible, if slight, danger of confusion of specimens in large laboratories. I have known one case in which a laboratory diagnosis of typhoid led to the overlooking of a large internal abscess for three weeks, the explanation probably being a mistake of that kind. I feel strongly that no phy-

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sician should allow a laboratory to make a diagnosis of typhoid fever for him, and any such diagnosis by a laboratory should discredit it.

In the field of the true blood-diseases the thing lies somewhat differently. Here the main, sometimes the entire diagnostic evidence is found in the blood, and the opinion of the specialist in such diseases should have the greatest weight. The evidence may be either positive or negative, the latter having especial importance in distinguishing pseudoleucemia from chronic lymphatic leucemia.

Examination of Stomach Contents.—The qualitative and quantitative methods used in the examination of gastric contents are for the most part sufficiently accurate for clinical purposes; that is, the errors in drawing conclusions from the results far outweigh most of the errors of observation. The fundamental points in the quantitative methods are, of course, the test meal and the time of its removal. In order to obtain comparative results these factors should be the same in every case, within certain narrow limits. The finding of lactic acid, for instance, has no meaning if milk has been taken; this most often occurs from the patient using a roll made with milk. Another obvious prerequisite for accurate results is that the contents of the stomach be obtained without the addition of any water.

Töpfer's method as given out by him included the use of alizarin as an indicator. I have not found that any reliance could be placed upon it and have abandoned it, using Congo red to estimate the total free acid and acid salts. The end reaction of dimethyl-amido-azo-benzol was found by Dr. J. S. Thacher, in a set of experiments at the Presbyterian Hospital Pathological Laboratory, to be an orange red and not the standard yellow in the presence of free lactic acid. This should be borne in mind and lactic acid tested for before proceeding to the titration. If present, the soda solution should only be added until the color changes from scarlet to orange red.

The usual tests for lactic acid, Uffelmann's, Kelling's, etc., are subject to so many errors when applied to the filtered gastric contents direct that a positive reaction should not be considered due to lactic acid unless it be corroborated by a test made in a solution of an ether extract of the filtrate.

The test with iodo-potassic-iodide for starch and erythrodextrin I consider capable of affording useful subsidiary evidence and I think it should not be omitted. An occasional test, which should always be applied when there is a suspicion of altered blood, in vomit especially, is Teichmann's for obtaining hemin crystals.

Errors in Reasoning.—The most that we can obtain by our analysis of gastric contents is a functional diagnosis. In most patients with disorders of the stomach the functional disturbance is the disease; in some, however, it is the symptom of organic changes in the organ. The presence of blood, if we can prove that it has come from the stomach, of necessity indicates some organic lesion, be it ulcer or cancer, or a congestion secondary to cirrhosis of the liver or cardiac disease. Mucus in any quantity, especially if it contain leucocytes and epithelial cells when examined microscopically, points to a catarrhal process. Apart from these the laboratory affords no direct light on the causes underlying the disturbance of function, and in many cases of dyspepsia the gastric secretion will be found normal. Hydrochloric hyperacidity is strong corroborative evidence of ulcer of the stomach only in conjunction with stronger clinical evidence, and the same is even more true of the absence of free HCl and presence of lactic acid, once hailed as a certain diagnostic sign of cancer.

Even the discrimination of the exact disorder of secretion present requires care in reasoning. An increase in total acidity above the normal may be due to increase in HCl or organic acids, and a complete examination alone is of value. Where there is no hyperacidity a condition of hypersecretion may be present. A large amount of unconverted starch gives some indication of this, showing an early inhibition of salivary digestion. Sometimes an entire absence of secretion and digestion may be found, where the explanation is a nervous inhibition of secretion due to the effect of the awaited examination. The stomach is so closely related to all the other organs of the body and is so influenced by the nervous system that the most searching examination of the physical and psychical condition of the patient can alone guard against serious errors.

In conclusion I would crave indulgence for the many inadequacies in the discussion of the subject, which are inseparable from the standpoint of personal experience, necessarily incomplete, from which I have aproached it, and trust that the consideration of certain of the sources of error in the great field of the clinical laboratory may help some to a more just appreciation of its scope in diagnosis.

36 West Fortieth Street.

MEDICAL PROGRESS.

Chemistry of Blood During Fever.—A careful chemical examination of the blood of a patient who exhibited febrile periods interrupted by afebrile intervals has been made by K. STEJSKAL (*Zeitschft. f. klin. Med.*, Vol. 42, 3 and 4). During the fever there was found a reduction of proteid and dried residue, fat, cholestrine, iron and chlorine compound while water, calcium, potassium and total ash were increased and the lecithin and sodium remained normal. With serum alone there was a diminution of all ether extractives and chlorides and an increase of potassium. The red cells were deficient in albumin, cholestrin and lecithin and richer in water and salts. Their weight has increased through imbibition of the plasma. All these changes, the author thinks are due to the temperature alone.

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THE MEDICAL NEWS.

A WEEKLY JOURNAL

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SATURDAY, MAY 4, 1901.

ASSOCIATION OF AMERICAN PHYSICIANS.

THE sixteenth annual meeting of this distinguished body was a memorable and noteworthy occasion. The attendance was excellent, the program was most interesting and the discussions spirited and awakening.

Comparisons are invidious, but certain of the papers presented were worthy of special praise as offering not so much technical dissertations on recondite and unusual subjects, but practical considerations of fundamental and ever-present problems.

Dr. C. A. Herter of New York read a highly interesting communication on the relations of acid intoxication to the development of diabetic coma. He showed by specially devised chemical methods that the amount of the organic acids might be accurately measured and that as the amount of these organic acids increased and were not neutralized by the bases, formed in metabolism, the danger of coma grew more imminent. These methods offered a practical method of prevising the occurrence of this dangerous complication and offered a hint for the beginning of active treatment.

The papers of Drs. Barker, Novy, and Flexner on their recent investigations on plague in San Francisco were noteworthy. The work done by this Commission merits the highest praise and its members well deserve the thanks of the country at large for their labors. The stamping out of the plague in this country can now be assured because of the suggestions made by the Commission to the health authorities of California.

Drs. Reed and Carroll had the occasion to further supplement their work in Cuba, and from the results more recently announced it may be asserted with confidence that an important etiological factor in the spread of the scourge of yellow fever has found a definite solution. It may be mentioned in passing that the soldiers of the United States who submitted to the experiments are as real heroes of the Spanish-American War as those that indulged in the horrors of battle.

The proceedings of this meeting of the Association will go down in history as embodying some of the most important contributions the science of medicine has ever received.

THE PROTOZOON OF CANCER.

NEEDLESS to say Dr. Gaylord's article on the "Protozoon of Cancer" in the May number of the *American Journal of the Medical Sciences* will attract widespread attention. We may still hesitate to accept the opinion that cancer is really on the increase in the alarming degree mortality statistics in this country and in England seem to show, but there is not the slightest doubt that the mystery of the cause of cancer is the most important pathological problem before modern medical science. So many futile attempts at its solution have been made, so much time has been unsuccessfully devoted to its investigation by the great authorities in pathology, that there is now a natural skepticism aroused by any claims of definite results. With this feeling most of Dr. Gaylord's readers will approach his article.

This much is evident even on a cursory reading. His work has been well done. We may be proud to have the results of Dr. Gaylord's researches go forth to the medical world as the type of work accomplished by American investigators under favorable circumstances. The *American Journal of the Medical Sciences* is the most widely read by scientific medical circles in Europe, so that we can be sure that the article will not only attract attention, but

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evoke the criticism without which no medical work goes on to its perfect evolution. New light has undoubtedly been thrown on the cancer problem and the State of New York, by whose subvention the laboratory researches have been made possible, may well be congratulated on the fact that one of the first appropriations made for the investigation of a special subject in medicine has been used so faithfully and, as it would seem, with so much promise of ultimate benefit for the race. The money has been well invested and the attention of philanthropists can scarcely fail to be attracted to the importance of material aid for the furtherance of similar researches.

With regard to Dr. Gaylord's article it may be said, first, that his review of the work of others in the investigation of cancer etiology has been not only complete, but eminently fair, and impartial and, second, the conclusions based on his own work, as far as its ultimate results may be anticipated at this stage of the investigation, are modest and unassuming. Certain of his observations go far to overcome prejudice as to the insolubility of the cancer mystery. The fact that the supposed parasites can be seen without staining, for instance, tends at once to reconcile the reader to their probable significance. So many mistaken claims in cancer etiology have been founded on artefact appearances due to elaborate staining methods that this latest observation is at least refreshingly novel. The fact that the appearances thought to be micro-organismal resemble fresh fat droplets, yet prove after the application of the ether and osmic-acid tests to be composed of other material, has not much significance in itself. Some unusual form of degeneration might be expected to occur in cancer. When this observation is, however, taken in connection with the fact that the number of such bodies present increases very materially during twenty-four to forty-eight hours after the removal of the malignant tumor, there seems good reason to think that we are in the presence of a far-reaching discovery.

So-called fatty degeneration of carcinoma is not infrequent and Dr. Gaylord now interprets the appearances that are presumed to demonstrate the condition as really due in some part to the presence of the various forms of an organism of cancer. These have hitherto been mistaken for fat droplets and for infected epithelial cells which were supposed to be in an advanced stage of fatty degeneration. The centers of carcinomata that have undergone degeneration to such an extent that the contents are fluid, thus producing the so-called "cancer milk" of the older writers, are in Dr. Gaylord's opinion practically pure cultures of the cancer micro-organisms, and he adds, "The fluid from malignant ovarian cysts likewise contains a large number of the organisms and the peculiarly characteristic mush found in the cavities of certain adenocarcinomata of the ovaries is likewise largely composed of the various forms of the parasite."

Dr. Gaylord has not succeeded in cultivating the micro-organism he has been observing. As he has employed sixty-four kinds of culture media, it would seem that the question of the microbe being a saprophyte is definitely settled. These experiments would also seem absolutely to preclude the idea of the microbe under observation being a yeast. The protozoon nature of the organism might thus be assumed by exclusion. In confirmation of the theory of the protozoon character of the cancer parasite, Dr. Gaylord has made some interesting comparative observations with certain appearances recently described in vaccine lesions. Comparative tests made with staining methods show that the half-grown forms of the vaccine organism, as described by Gorini last year, are very closely related in appearance to the bodies seen by Plimmer and Russel, English observers whose work has been confirmed by Dr. Gaylord's researches. The protozoon forms in carcinoma all have their prototypes in the various stages of development of the vaccine organism.

Our two greatest pathological problems, the etiology of smallpox and cancer, seem to be approaching solution together. Dr. Gaylord has been able to produce some apparently malignant neoplasms in animals. The demonstration of his micro-organism in the circulation of animals suffering from cancer cachexia is interesting and eminently suggestive. The cause of cancer cannot be said to be definitely discovered, but an important step forward in our knowledge of cancer etiology has been made. That this should come as the result of the coördination of the observations of investigators in many countries adds to the probability of ultimate success. Medical discoveries have never been made out of the whole cloth of absolute invention. They have ever been.

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just as in this case, foreshadowed by many observers before being ultimately formulated in their true expression.

THE PHYSICIAN, A DISREGARDED FACTOR IN MEDICAL PROBLEMS.

THE recent death of the Bell Bill limiting the practise of so-called "Christian Science" but confirms the well-known and often-stated fact that legislation alone cannot prevent abuses in the medical world. In discussing the time-worn topic of the regulation of the dispensary abuse the general tendency has been to blame the pauper element among those who are not dependent upon charity for availing themselves of the gratuitous medical advice proffered by the dispensaries, and to advocate careful investigation of their financial status.

While acknowledging the advisability of this method it must not be overlooked that the members of the profession can do much to aid the movement by their personal attitude, in convincing those who are in a position to recompense a physician that the acceptance of charity treatment lowers such an individual in the public estimation. The investigation of applicants is hindered by the wish of the dispensaries to present a creditable record of the number of "worthy poor treated, and incidentally by the desire to obtain a more generous share of the city appropriation for the treatment of such cases.

Fully as important a factor, however, is the attitude of the medical men themselves in this matter, and by their coöperation alone can the abuse of dispensary charity be regulated. Patients are allowed to receive treatment "for teaching purposes" although they may refuse to appear before the classes, or through carelessness as to their financial condition, or in some cases in the hope that they may eventually be turned toward the office of the attendant.

The present overcrowding of the medical profession leads to the necessity for some form of advertising. As the number of physicians in the city increases, so does that of the dispensaries and hospitals, nominally for charitable purposes, but often really for the sake of giving places as attending physicians. This in turn leads to the admission of unworthy applicants as patients in order to fill the dispensary. In favor of the multitude of these institutions, however, may be raised the just argument that comparatively few of the horde of men annually graduated can secure the necessary education given only by a resident service in a good hospital, and hence must obtain what practical experience is possible by dispensary service, while the confiding public gradually affords opportunities for learning the clinical features and treatment which theoretical instruction cannot convey. Another, and an almost unanswerable argument in favor of the admission, without thorough investigation, of patients who apply at dispensaries is the fact that many of those who can afford the luxuries of life yet still demean themselves to accept charity treatment at a dispensary, are of such a moral caliber that they would cheat a private physician out of his time and money by intentionally neglecting his bills.

The remedy for the dispensary abuse includes not only an examination of the financial condition of applicants, but also restriction of the number of graduates from the medical schools. As competition diminished the necessity for cutting rates, advertising through dispensary positions, etc., would also decrease. Such restriction must necessarily be brought about by more stringent requirements by the medical schools themselves. As long as they continue to graduate any but those best qualified by nature and education for the duties of the medical profession, just so long will the ranks of that profession be overcrowded and this overcrowding with incompetent men merely aids the existence of quacks, "healers," and others who pretend to possess supernatural powers in the treatment of disease.

The mistakes of regular physicians are what drive many a patient to the quack, and anything that will improve their diagnosis and treatment will go far toward removing this support of the powers of darkness. This is best obtained by elimination. The tendency of medical institutions of learning to fill their halls is most natural. A large attendance increases the reputation of the college and last, but not least, furnishes the support without which the maintenance of these institutions would be impossible. Again, it would be held that were the standard of medical education in this city raised it would not affect outside institutions and the city would still be flooded with the products of diploma-mills. Such an argument is not conclusive, as a beginning must be made in any movement and this can nowhere be done better than in the largest and most prolific of medical centers in this country. When the public realizes that the standard of certain institutions is high they will eventually

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be more likely to demand men from these sources.

And how is this result to be accomplished? Let those charitably disposed give for the endowment of existing medical institutions, rather than for the erection of new buildings to bear their names, and a serious obstacle in the way of elevation of the standard of the profession will be removed. And let the members of that profession urge the importance of this point upon their would-be benefactors. The true philanthropist will consent, the egotist will demand the construction of a permanent memorial to himself.

ECHOES AND NEWS.

NEW YORK.

New York Academy of Medicine.—The Section on Otology meets Wednesday, May 8th. Dr. E. W. Pyle will read a paper on "A Correlation of One Hundred Successive Mastoid Operations." Section on Pediatrics on Thursday, May 9th. Dr. W. S. Bainbridge will read a paper on "Spinal Analgesia in Twelve Operations on Children under Three Years of Age." Dr. J. F. Terriberry will show a case of double birth palsy; Dr. J. H. Larkin will report a case of hypertrophic pyloric stenosis; Dr. W. S. Bainbridge a case of double strangulated hernia at four months; operation and recovery; a case of cancrum oris; operation, recovery. Drs. M. Nicoll, Jr., and A. J. Lartigau will present a "Preliminary Report on an Investigation of Adenoids with References to Tuberculosis"; and Drs. W. L. Carr and Samuel Pierson will report a case of general subcutaneous emphysema.

At the meeting held May 2d, the following candidates were recommended for election to Resident Fellowship: Drs. S. A. Brown, W. H. Caswell, J. J. Higgins, John Horn, P. D. Kerrian, C. A. McWilliams, and F. F. Ward.

Gibbs Memorial Prize Fund.—The Trustees of the Academy announce that Mrs. Sarah Barker Gibbs and Miss George Barker Gibbs have given $10,000 to be invested for the establishment of the Edward N. Gibbs Memorial Prize Fund. The income is to be awarded triennially to the physician of regular standing in the medical profession of the United States who shall present the best original essay on the etiology, pathology and treatment of diseases of the kidney.

Yale Commencement Speaker.—Prof. Edmund B. Wilson, of Columbia University, will be the commencement-day speaker at the Yale Medical School.

New York State Medical Society.—At the ninety-fifth annual session of the Medical Society of the State of New York held at Albany, New York, January 29, 30 and 31, 1901, it was moved and unanimously adopted that in order to increase the facilities for becoming permanent members of the Society, each County Society should be allowed to send five times the number of delegates it had formerly sent to the State Society. These delegates are elected for a term of three years and are eligible for permanent membership if they register twice during that time. This will make the number of delegates from the County Society to the State Society 750 in all, or one delegate for every eight or nine members of the County Societies without increase of expense to the County Societies.

It was further agreed in response to a widely-expressed desire, that the Society hold a semi-annual meeting in the City of New York in the early autumn to be devoted entirely to scientific work and social intercourse. The officers of the Society announce that they have engaged the New York Academy of Medicine for this purpose where a meeting of two days' duration will be held October 15, 16, 1901.

Members wishing to read papers are requested to communicate with Dr. Nathan Jacobson, 430 S. Salina street, Syracuse, N. Y., and information of any other nature can be obtained from Dr. Frederick C. Curtis, Secretary, 17 Washington avenue, Albany, N. Y., or from Dr. Frank Van Fleet, Associate Secretary, 63 East 79th street, N. Y. City.

It is further announced that the Society will tender a reception to its members, delegates, and guests, on the evening of October 15th at Delmonico's. Tickets of admission to this reception will be furnished without cost to all who register at the semi-annual meeting as well as to the Society's guests.

Pathological Staff Resigns.—The entire corps of associates and assistants to Dr. Ira Van Gieson, Director of the Pathological Institute of New York, handed him their resignations on April 30th. This action was intended to show their sympathy for and loyalty to Dr. Van Gieson, whose removal was ordered by the Commission in Lunacy to take effect on May 1, 1901. Dr. Van Gieson has begun suit for possession of the pathological specimens and other property of the Institute.

Heredity.—Professor J. George Adami, of McGill University, Montreal, will deliver an address under the auspices of the Brooklyn Medical Club, on Friday, May 17th, at 8:30 P.M., in the Medical Library Building, 1313 Bedford Avenue, Brooklyn. His subject will be "The Medical Aspect of Heredity."

PHILADELPHIA.

Appointment of Dr. Kelly.—Dr. Aloysius O. J. Kelly, Instructor in Clinical Medicine in the University of Pennsylvania, was recently elected Professor of the Theory and Practice of Medicine in the University of Vermont. He leaves Philadelphia shortly for Burlington to begin his professional duties and will return to Philadelphia in the early fall.

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Pay Hospital for Contagious Diseases.—The promoters of this enterprise state that the hospital will be in working order in the early autumn. One of the greatest difficulties to overcome has been the prejudices of citizens against the proximity of the building. An accessible site six miles from the City Hall, outside of the city limits, has been chosen. The entire cost of the hospital will be $100,000.

Homeopaths Demand a State Insane Asylum.—A deficiency bill carrying an appropriation of $1,000,000 now before the State Legislature bids fair to become available for charitable purposes. If this end is attained two institutions will probably benefit thereby. Members of the homeopathic medical fraternity are making a strong plea for an insane asylum to be under the control of the members of their school as there is not an asylum in Pennsylvania where a homeopathic doctor is admitted to practise. They ask for $200,000 with which to erect a building. The projectors of the State Hospital for Consumptives also desire an appropriation of $100,000.

Symposium on Diphtheria.—The meeting of the Philadelphia County Medical Society on April 24th was devoted to the above topic. Dr. J. D. Steele, in a paper on "The Present Aspect of the Antitoxin Treatment," gave statistics of the mortality-rate in Chicago, New York, Boston, and Philadelphia. These showed the latter city to have a higher rate than either of the others. Dr. Steele thought this due to a lack of energy in the prompt use of antitoxin. Dr. Packard believes it is caused by the failure of physicians to report many mild cases in order to prevent the quarantining of houses.

Clinical Aspects of Diphtheria.—Dr. F. A. Packard in speaking on the above subject said that bacteriological cases of diphtheria, *i.e.*, cases in which the bacilli are tolerated in the throat with no clinical symptoms are often a source of more danger to the community than are cases of clinical diphtheria. The absence of local discomfort is more suspicious of the Klebs-Löffler infection than of a pyogenic infection. Bleeding from the nose should excite suspicion of diphtheria. The pallor of the skin and mucous membranes of diphtheria is not seen in any other form of angina.

The Treatment of Diphtheria.—Dr. M. H. Fussell said that antitoxin given early is a specific. The only positive diagnosis of diphtheria is made from bacteriological examination of the throat but while waiting for this antitoxin should be given. He rarely uses more than 1,000 units at a dose, but repeats it unless improvement is rapid. Applications to the throat should be made or not made according to the individual. He has seen deaths result from persistent application to nervous, resisting children. Simple alkaline solutions are sufficient for applications, hydrogen peroxide not giving favorable results in his experience.

CHICAGO.

Bazaar at St. Luke's Hospital.—A bazaar was given at this institution a few days ago by the graduating class of the St. Luke's Hospital Training School for Nurses, netting $1,000, to be applied to the charity work of the hospital.

Nicholas Senn Hall.—A permit was issued April 17th for the erection of a seven-story addition to Rush Medical College, to be ready for occupancy November 15th. The building will be devoted to clinical instruction, and it is said it will cost $115,000.

Symptoms and Diagnosis of Gastric Ulcer.—At the meeting of the Chicago Medical Society, held April 4th, there was a symposium on ulcer of the stomach. Dr. N. S. Davis, Jr., read a paper with this title. Attention was called to the frequency with which the malady occurs. Many pathologists have found evidences of former gastric ulcer or existing ulcer in from three to ten per cent. of those who were examined at autopsy. The diminished acidity of the urine and the occurrence of an alkaline wave after meals, and the diminished amount of chlorides in the urine were described as evidences of hyperacidity of the stomach and as occurring in strange contrast to the conditions existing in cancer and chronic gastritis with which round ulcer is so often confused. Digestive leucocytosis exists in cases of gastric ulcer, but as a rule is slight or wanting, in cases of cancer and chronic inflammation. Persistent and even anemic leucocytosis occurs in most cases, of course, but does not occur in round ulcer. The ratio of hemoglobin to red corpuscles often resembles that of pernicious anemia in cancer, but that of chlorosis in round ulcer. In both maladies hemorrhages often reduce both equally at least for the time being.

Blind Medical Men.—A blind student was graduated with honors a few days ago at a medical college in Chicago. Aided by his highly developed senses of hearing and feeling, he hopes to become a successful specialist in the treatment of ills that have to be diagnosed partly by sound and touch. A sightless physician in Boston who died while yet a young man had already become noted as a specialist. There are several practising physicians in this country who cannot see.

GENERAL.

Bacterial Laboratory at Yale.—By a rearrangement of four rooms in Sheffield Hall a new bacterial laboratory has been constructed for the use of the senior class in sanitary engineering. It has accommodations for about twenty students.

Wheeling Medical Library Association.—About three years ago a number of the members of the medical profession in the city of Wheeling, West Virginia, realizing that the existence of a medical reference library for the Mountain State had become a necessity to the

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intelligent study of the science of medicine, organized the Wheeling Medical Library Association. This association is now in a most thriving condition, having on its shelves over seven hundred volumes, and on file all the leading medical and scientific magazines printed in the English language. At their recent annual meeting the following officers were elected: President, Dr. Frank Le Moyne Hupp; Secretary and Treasurer, Dr. William Hay McLain; Librarian, Dr. J. Schwinn.

American Surgical Association.—The regular annual meeting of this Association for 1901 will be held in the city of Baltimore, at the Library Building of the Medical and Chirurgical Faculty of Maryland on Tuesday, Wednesday and Thursday, May 7-9, 1901. The program gives unusual promise. The President, Dr. Roswell Park, will deliver an address on "Some Phases of the Cancer Problem," and the following papers are announced: "Early Signs of Carcinoma of the Uterus" by T. S. Cullen; "Cancer of Breast Treated at the Johns Hopkins Hospital since 1889" by W. S. Halsted; "Late Results in Inoperable Sarcoma Treated with Mixed Toxins" by W. B. Coley; "Mental Depression and Malignant Disease" by J. D. Bryant; "The Examination of the Blood in Relation to Surgery" will be discussed by several. Drs. J. C. Bloodgood, J. C. Da Costa, Jr., J. B. Blake, J. C. Hubbard, R. C. Cabot, J. L. Kalteyer, J. B. Deaver and W. W. Keen will be among those who will contribute papers. Prof. Mayo Robson of England will read papers on "Pancreatitis" and "Treatment of Chronic Ulcer of the Stomach"; "Arteriovenous Aneurism" by R. Matas; "Operative Intervention for Tumors of the Liver" by W. G. Macdonald; "Subtrochanteric Osteotomy" by E. H. Bradford; "Phlebitis Following Abdominal Operations" by A. Vander Veer; "Operation for Radical Cure of Umbilical Hernia" by W. J. Mays; "Fractures and Dislocations of the Spine" by S. H. Weeks; "Radical Cure of Inguinal and Femoral Hernia" by W. B. Coley; "Resection of Chest Wall for Large Sarcoma" by W. W. Keen; "Pulmonary Insufflation" by R. Matas; "Silver Wire and Electricity in the Treatment of Aneurisms" by Leonard Freeman; "Movable Kidney" by M. L. Harris; "Abdominal Contusion and Nephrolithotomy" by S. J. Mixter; "Malignant Forms of Rodent Ulcer" by J. Collins Warren; "Congenital Sacrococcygeal Tumor" by Chas. A. Powers; "Vicious Circle after Gastro-Enterostomy" by T. A. McGraw; "Splenectomy for Myelogenous Leucemia" by M. H. Richardson; "Dislocation of Tibia and Arthrotomy" by J. B. Roberts and "Pneumonotomy" by W. Joseph Hearn.

Johns Hopkins University.—The Medical School has just opened several important special courses of instruction for graduates in medicine, which will continue during May and June. These new courses are intended to meet the requirements of practitioners of medicine, and are almost wholly of a practical character. Next October a limited number of physicians will be admitted to a special class for the study of the important tropical diseases, especial attention being given to malaria, dysentery, and typhoid fever. Preference will be given to officers of the medical departments of the army and navy.

Western Ophthalmological Association.—The following officers were elected at the sixth annual meeting of the Western Ophthalmologic and Oto-Laryngologic Association held in Cincinnati April 11th and 12th: Dr. C. R. Holmes, Cincinnati, O., President; Dr. W. L. Dayton, Lincoln, Neb., 1st Vice-President; Dr. J. O. Stillson, Indianapolis, Ind., 2d Vice-President; Dr. H. W. Loeb, St. Louis, Mo., 3d Vice-President; Dr. O. J. Stein, 100 State street, Chicago, Treasurer; Dr. William L. Ballenger, 100 State street, Chicago, Secretary.

At the meeting in Cincinnati the scientific program was of very high grade. Forty new members were elected. The next meeting will be held in Chicago, April 10, 11, and 12, 1902.

Dentists for the Army.—The Army bill of this year made provision for the first time for the care of soldiers' teeth by authorizing the appointment of dental surgeons by the Secretary of War on the recommendation of the Surgeon-General. These dental surgeons are to be in the proportion of one to every 1,000 men of the army, but are not to be more than thirty in all. That is, there ought to be seventy-five or more, but only thirty can be appointed. Contract dental surgeons are to have the pay of army contract surgeons, $150 a month and to have the same rights and duties as those "acting assistant surgeons." Contracts will be made with them for three years, terminable after investigation by the Commanding General of a department, or by the Surgeon-General, when he thinks it will be for the interests of the service. Dental surgeons are to be between the ages of twenty-four and forty, and are to pass a professional examination before a board of three examining dental surgeons. This board has been formed by the Secretary of War and contracts with some surgeons have been made, though no dental surgeons have yet been sent to army posts.

Roentgen Ray Institute.—At the Dermatological Clinic of the University of Berlin an institute for light treatment and for Roentgen-ray therapy has been opened under the directorship of Professor E. Lesser.

University of Havana.—Dr. Aristides Agramonte, formerly Chief of the Bacteriological Laboratory, has been appointed to the Chair of Bacteriology and Experimental Pathology in the Medical Faculty of the University of Havana, Cuba.

Suffolk District Medical Society.—At the last regular and annual meeting of this Society,

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held at Boston April 27th, Dr. Franz Pfaff read a paper on the "Teaching of Therapeutics"; and before the Surgical Section Dr. C. L. Scudder read a paper on "Strangulation of the Testis by Torsion of the Cord"; Dr. J. W. Elliot, "Report on Two Cases of Strangulation of the Intestine by Bands"; Dr. F. G. Balch, "Report of a Case of Intussusception."

Obituary.—Dr. Ginlo Bizzozen of Turin, widely known as an investigator in histological and pathological lines, died April 8, 1901. He was born in Lombardy in 1846 and studied medicine in Pavia, Zürich and Berlin. In 1872 he was appointed Professor of Pathology in the University of Turin. His investigations on the blood, connective tissues, bone-marrow, lymph-nodes and dural tumors are classical. Many of the ablest investigators of the present time in Italy were his pupils, Golgi, Tizzoni, Foa, Canalis, Morpugo and others.

Dr. Richard C. Baker, of 75 Lee Avenue, Williamsburg, who was secretary of the Brooklyn Health Department under Mayors Chapin and Boody, died last week of tuberculosis, aged fifty years. Dr. Baker was born in Otsego and was graduated from the University of New York in 1874. He went to Williamsburg, where he built up a large practice and for many years was prominent in Democratic politics.

Dr. George Cogswell died at Haverhill, Mass., April 21st, aged ninety-three years.

OBITUARY.

WILLIAM HENRY DRAPER, M.D.

Dr. William H. Draper died Friday morning, April 6th, at his home. Pneumonia was the cause of death, but for more than a year past he has been in failing health. Dr. Draper was for many years one of the best known and most prominent physicians in New York. He was notably a general practitioner in medicine. Next to his standing as a general practitioner, Dr. Draper was a teacher of medicine. Hundreds of students listened to him and learned from him more than they were able to learn from any other instructors, not only because of what he taught—many taught as much—but owing to his way of teaching.

Dr. Draper was born in Brattleboro, Vt., on October 14, 1830, and came early to this city. He was a musician and he utilized his accomplishment as an aid in acquiring his education, serving as an organist in St. Thomas's Church when it was at Broadway and Houston Street, on the site now occupied by the cable building of the Metropolitan Street Railway Company. He studied at Columbia College, from which he was graduated in 1851. He was graduated in medicine from the College of Physicians and Surgeons in 1855, and in the same year received the degree of master of arts from Columbia. He went to Europe then and studied in Paris and London. Returning to this country, he was appointed in 1869 clinical professor of diseases of the skin at the College of Physicians and Surgeons. He was at that time regarded as a specialist in diseases of the skin, but that was as near as he came to being a specialist. He never took up a specialty as the term is understood by medical men nowadays. He retired from this professorship in 1879 and in the following year he was appointed professor of clinical medicine. He held this post until 1888, when he resigned and was appointed emeritus professor.

He was a trustee of the College of Physicians and Surgeons before it was merged with

WILLIAM H. DRAPER, M.D.

Columbia, and in 1889 he was elected to serve the university until his death.

Dr. Draper's connection with the New York Hospital was a long and interesting one. He was appointed attending physician in 1862 and continued to act as such until 1889, when owing to illness he resigned and was appointed consulting physician. But he got lonesome after all his years of active service as attending physician, and resigned as consulting physician in 1893 to be appointed attending physician again. It was a very rare thing for a physician to do, to resume active work. Dr. Draper served as attending physician until 1900, when he resigned, and he was then again appointed consulting physician. This makes his service of the institution one of thirty-nine

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years, five years longer than that of Dr. James McLane, Dean of the College of Physicians and Surgeons, and nine years less than that of Dr. Markoe.

In addition to the New York Hospital Dr. Draper was connected with St. Luke's, the Presbyterian, Trinity, Roosevelt Hospitals, the New York House of Mercy and the Northwestern Dispensary. He was appointed attending physician at the Roosevelt Hospital upon its organization in 1871 and resigned in 1897, whereupon he became consulting physician there. He was President of the Medical Board of Roosevelt in 1883.

Dr. Draper made a trip of inspection to the Peninsula in connection with the Sanitary Commission during the Civil War. He was at one time President of the Alumni Association of the College of Physicians and Surgeons. In 1886 he was President of the College of Physicians and Surgeons and President of the Academy of Medicine. He belonged to the Academy of Medicine, the County Medical Society, the Pathological Society and the Physicians' Mutual Aid Association. In his early life he was a special student under Dr. Willard Parker, serving, under the custom of the time, as Dr. Parker's assistant, being succeeded in that post by Dr. E. W. Lambert, who with the late Dr. Henry B. Sands was an associate of Dr. Draper's for many years, these three well-known New York physicians having been born within a few months of one another. Dr. Draper before going to Europe in the fifties was an interne at Bellevue Hospital.

The ablest summary of Dr. Draper's personal attainment is that given by Dr. William Osler in an editorial notice in the New York *Sun*, which we here give entire.

"Tender memories and keen regrets will be awakened in the minds of many physicians all over the country at the news of the death of Dr. William Henry Draper. It has been given to a few men to adorn the profession with greater graces of the head and of the heart. He belonged to that rare group of men whose daily routine is a benediction, and whose very presence is a benison.

"As a teacher Dr. Draper had a keen sense of proportion in the subjects under discussion, and the merit of lucidity. One felt, too, in listening, a trustfulness in his honesty, and a faith in his convictions. A voice of uncommon sweetness, a singularly attractive face, and a winning manner lent special charms to him as a speaker.

"While not a voluminous writer he made many and valuable contributions to the literature of his profession. With the late Dr. Seguin he introduced the study of thermometry in this country. On the subject of gout and disorders of metabolism in general, Dr. Draper wrote as one having authority.

"But it was as a practitioner and consultant that Dr. Draper will be long remembered. He had in full measure 'that wisdom which results from combining knowledge with the instinct and skill for its useful application'—words which he himself used in describing the modern practitioner of medicine. Of his generation it would be difficult to name a man more beloved by his patients or more esteemed by his pupils and his colleagues. I express the feelings of his professional brethren in the Association of American Physicians, of which he was a founder and one of the early Presidents, when I say that in our discussions we listened to no one with greater attention, and the younger men among us looked on him as in all respects the ideal physician. Rare grace of presence, with a quiet dignity and reserve, made him a marked man in our gatherings, and his genial and unfailing courtesy and sweetnes of manner gave him an unrivalled popularity. 'The too, too slow relief of lingering fate' he bore with a becoming patience and equanimity, and while restful death came to him as a longed-for friend, to us the joy in his release is tempered with sorrow at the thought that we shall see his face no more."

CORRESPONDENCE.

OUR LONDON LETTER.

[From Our Special Correspondent.]

LONDON, April 22, 1901.

THE REFORM OF THE BRITISH MEDICAL ASSOCIATION—PRIVILEGES OF ITS MEMBERSHIP—ITS SCIENTIFIC WORK—ITS POLITICAL WORK—THE SLOW GRINDING OF ITS MILLS—CAUSES OF THE PRESENT DISCONTENT—THE COUNCIL AND THE MEMBERS—THE CENTER OF GRAVITY IN THE GOVERNMENT OF THE ASSOCIATION—A "NAPOLEONIC LEGEND" IN THE ASSOCIATION—THE FRAMING OF A NEW CONSTITUTION—A BATCH OF DECORATIONS FOR MEDICAL MEN.

AMONG the medical questions of the day here may perhaps be counted the reform of the British Medical Association. I say "perhaps," because although a good half of the medical profession in these islands belong to that body, very few take any particular interest in its affairs. For a subscription of a guinea (about four and a half dollars) members get a good medical journal, and the right to attend an annual meeting in which the Horatian precept as to blending the agreeable with the useful is fulfilled by a judicious mixture of scientific papers and picnics. With these privileges the bulk of the members of the Association are content. They receive their *Journal*, which they do not read, but the sight of which seems to give them a sense of satisfaction akin to that felt by a Eunuch in the possession of a harem; and they go year after year to Edinburgh, or Birmingham, or Chelten-

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ham, to keep their brethren informed of their continued existence and to proclaim *urbi et orbi* their most recent inspiration as to the treatment of a colic or the curve of a catheter. Beyond such simple joys they look for nothing from the Association.

Owing mainly to the popularity of its *Journal* the Association has for a long time been steadily growing in prosperity, and it has a surplus revenue which for some years has averaged £4,000 ($20,000). It has bought itself a considerable amount of real estate, including a large house in the most central part of London, Charing Cross, where even last century there was to be seen, according to Dr. Johnson, "the full tide of human existence." In that house there are not only offices for the transaction of the business of the Association, accommodation for the editorial staff and composing-rooms, but a considerable library which only needs a little more enlightened liberality in its management to become one of the most important in the Kingdom. In this library besides opportunities (in Matthew Arnold's phrase) of learning the best that is said and done in the medical world, members can write letters, transact business and interview friends as in a club. These varied advantages are greatly appreciated as is shown by the large and ever-increasing number of its members who avail themselves thereof.

The British Medical Association, as is set forth in its articles of association, was established for "the promotion of medical and the allied sciences, and the maintenance of the honour and the interests of the medical profession." The former of these purposes is fulfilled by the foundation of scholarships for the encouragement of original research and by grants in aid of special investigations; subventions are also given from time to time to the Jenner Society (which is the defender of the true faith against those whom Jenner himself called the "antivacks"), the Liverpool School of Tropical Diseases, the Congress of Tuberculosis, etc. The amount spent for such objects in 1900 amounted to more than £1,000 ($5,000). From time to time, too, committees of investigation on such matters as cancer, inebriety, the decay of children's teeth, the eyesight of railway servants, anesthetics, etc., are appointed, all of which involve more or less expense. Whether the Association gets adequate value for its money may be doubted. The Anesthetic Committee, for instance, sat for ten years, and after this prolonged incubation produced a report which though imposing in bulk and "horribly stuffed," as Iago says, with statistics, is scientifically and practically an addled egg. An elaborate "collective investigation" on cancer was equally barren of any solid result. Some years ago there was a Committee on Hypnotism which presented a report that was quietly suppressed by the Council as being likely to make the heathen blaspheme. An inquiry on the alcoholic question not only failed to throw much light on the matter, but stated its results with such curious infelicity of expression that the British Medical Association has ever since been quoted as teaching that abstainers are inferior to moderate drinkers in regard to expectation of life. Nor has the work done by the research scholars been as a whole of any great importance. The fact remains, however, that the Association spend a considerable sum of money each year, according to its lights, in the furtherance of scientific inquiry, and it is its misfortune, rather than its fault, that it has not yet found a mute inglorious Pasteur or Koch to whose genius "by poverty deprest" it could give the means of soaring.

With regard to its work in what may be called the political sphere, it must in fairness be admitted that the British Medical Association has on the whole done good service not only for the profession but for the public. Early in its career when it was comparatively a small and unimportant body it was instrumental in getting the first Vaccination Act passed in this country. It played the part of midwife in the process of legislative labor which ended in the birth of the Medical Act of 1859, and it may be called the actual begetter of the Act of 1886, the medical dispensation under which we now live and have our professional being. To the Association is mainly due such improvement as has in recent years been effected in the status and pay of the medical officers of the army, and it has taken an active part in the promotion of many useful reforms in our Poor Law, sanitary and lunacy administration. And its unostentatious work in adjudicating on ethical points and in supporting doctors in the public service against the insolence of office should not be forgotten.

But it may justly be said of the British Medical Association that its mills grind very slowly. Its committees as a rule meet but once a quarter, and a vast amount of time is lost in picking up the threads left loose at previous sittings. This fact lends some color to the charges of inefficiency and want of vigor brought against it by its critics. These consist of a few ardent spirits who think that things in general need reforming and they are the persons to reform them, with the usual following of busybodies in search of advertisement, malcontents whom in the words of Carlyle "no man's endeavour would satisfy," and cranks who are on principle "agin the government." The Association is governed by a Council the members of which are for the most part elected by the Branches between sixty and seventy in number; there is, however, a small number of former office bearers who have the title of Vice-President and as such have seats in the Council. These form but an insignificant proportion of the Council, and not many of them take the trouble to attend meetings so that their influence on the government of the Association is infinitesimal. Personally the Vice-Presidents are highly estimable old gentlemen, most of whom have grown grey and intellectually somewhat fossilized in general practice. Such influence as they have is derived from their character

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as *viri pietate graves*. But there appears to be a pretty widespread feeling that they should no longer even in an ornamental sense have seats at the Council board. It is plain enough that this feeling has no nobler source than the jealousy which led the Athenian of old to vote for the ostracism of Aristides because he was tired of hearing him called "the Just"; but unworthy as it is, the feeling must be reckoned one of the forces making for revolution within the Association. Something of the same feeling is extended to the Council as a body, which is charged with many high crimes and misdemeanors, all of which may be summed up in the allegation that it is too conservative and is obstinately opposed to all reform.

There has, of course, always been a party who denounced the Council and all its ways, on the general political principle that it is the business of an opposition to oppose. But this party was till recently too insignificant, qualitatively as well as quantitatively, to have any weight either with the bulk of members of the Association or with the profession at large. They used to go to the annual meetings and pass resolutions which the Council treated as the protagonists of Greek tragedy receive the admonitions of the Chorus. It had never been clearly determined where the center of authority in the Association really was, and the Council having the reins in their hands acted on Bismarck's principle *Beati possidentes*. As the tide of agitation seemed to be rising, they deemed it prudent last year to have the power they had usurped confirmed by legal opinion. They accordingly sought counsel of an oracle of the law who to their surprise and discomfiture reversed the action of Balaam and cursed what he was called upon to bless. With the fatuity which, according to the ancient maxim, is sent by the higher powers upon those whom they mean to destroy, the Council concealed the opinion that they had got from their lawyer long enough to give rise to the impression that they wished to suppress it altogether. Driven to bay at last, they appealed to the *plebs* of the Association in special meeting assembled only to be ignominiously routed.

From first to last the Council, or rather its inner ring of active rulers, have shown a spirit of shuffling and evasion which has naturally produced the worst possible effect by giving rise to the notion that there were all sorts of misdoings to hide. As a matter of fact the affairs of the Association have been conducted with perfect integrity, and the only faults that can fairly be laid to the charge of those responsible for its management have been want of judgment, activity and intelligent initiative. But, though there have been no crimes, there have been many blunders, and they have too often been blunders of the kind that Napoleon said were worse than crimes.

The readiness to believe evil of the powers that be in the Association is a legacy inherited by the present from a past generation. As Shakespeare says, "The evil that men do lives after them"; though in this case it cannot be said that the good has been interred with their bones, for, oddly enough, there is now a marked tendency (in ill-informed quarters, it is true) to give the *ex hypothesi* illustrious dead vastly more credit than is due to them. As there is a revival of the Napoleonic legend in France, there are signs of a revival of a corresponding legend in connection with the British Medical Association. The coincidence is made all the more remarkable by the fact that the hero of the legend when alive rejoiced greatly in the description of "the Napoleon of medical journalism" which in an ill-inspired oratorical flight was bestowed upon him by an American post-prandial speaker.

The legal decision that the Association, being registered under the Companies Act is in the same relation to its members that a commercial enterprise is towards its shareholders, placed its destinies in the hands of the annual meeting. As this is simply a fortuitous concourse of atoms, which is usually attended only by the officers of the Association and a handful of cranks, it was obvious that at any time by judicious lobbying a snatch vote might be passed by which the whole concern would be wound up or the Association committed to homeopathy, antivaccination or any other folly. Something had to be done, and Mr. Victor Horsley came forward as a savior of society and proposed the appointment of a Committee to frame a new constitution for the Association which was showing signs of tumbling *mole suâ*. This committee sat through the winter and drew up an unwieldy scheme of reform which is now being discussed by the Branches. In a future letter I will give an outline of the scheme, which as far as can be gathered from the voting up to the present, will be accepted. It should be said, however, that only an inconsiderable fraction of the Association take any interest whatever in the reform.

TRANSACTIONS OF FOREIGN SOCIETIES.

French.

TUBERCULOSIS—SPINAL ANESTHESIA—PUERPERAL INFECTIONS—PRIMARY RESECTION OF THE DIAPHYSIS OF THE HUMERUS.

ROBIN, at the Académie de Médecine, March 19, 1901, discussed the subject of the conditions and diagnosis of tuberculosis among mankind, basing his observations upon the results of data secured by Binet and himself, through several years past, of 392 patients. The facts enunciated tend to combat many of the false notions about tuberculosis held by the laity and physician alike. For example, it is held that the usual lung activity of the tuberculous is far below that of the normal chest, whereas the opposite is the rule. Consequently the practitioner is desperate in his efforts to increase the oxidizing functions. In 162 cases carefully determined in

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only 8 per cent were these conditions found to be correctly diagnosed in the popular notion. The variation from the falsely-assumed rule may be summarized as follows: Pulmonary ventilation increases about 110 per cent. in the female and 80.5 per cent. in the male; carbonic acid exhaled by the kilogram of weight and by the minute increases by 86 per cent. and 64 per cent. respectively in the woman and man; total oxygen consumed to the kilogram-minute increases in the female 100.5 per cent., in the male 70 per cent.; total oxygen absorbed by the tissues rises by 162.8 per cent. and 94.8 per cent. each in the female and the male sex. This superactivity of the pulmonary changes is present also in the acute stages and forms of the disease, and is always openly manifested in the chronic cases. It accompanies alike the periods of invasion, of advance and even of fatal termination up to almost the last moments. It is capable of oscillations which tend to show those periods which mark the advance, quiescence and recurrence of the process. Sufferers from tuberculous spondylitis, osteitis, osteomyelitis, orchitis, pleuritis, and adenitis, all conform to these rules of greater activity of the body-changes. They are, however, absent in the presence of peritonitis, meningitis and lupus of tuberculous character. There are several diseases and conditions which are accompanied by an exaggeration of the respiratory function, but in such the nature of such variations differs from that in phthisis. Therefore, if one hesitate about diagnosticating tuberculosis, a study of the respiratory changes will be likely to establish the question and since they occur with the invasion it will be possible to do so very early in the disease. The exaggeration of the respiratory function does not appear to be an act of defence by the system, nor a sign of the attack of the baccilli, since it exists in three-fourths of the offspring of tuberculous parents before any disease has appeared. In conditions regarded as antagonistic of tuberculosis, for example, arthritism, the respiratory functions are less than normal. These respiratory exaggerations may, therefore, be regarded as one of the ground or soil elements for tuberculosis and one of the others is the disintegration of the tissues, so that with Hippocrates we may regard tuberculosis as a consumption. It is this hyperoxidation and demineralization of the tissues which constitutes the soil for the invasion of the disease. The prophylaxis and cure of tuberculosis does not rest entirely with the means, public and private, commonly adopted against it. It consists in selecting persons probably susceptible to it and putting them under such hygienic and therapeutic influences as will tend to counteract the invasion of the bacilli.

RECLUS in reading a paper, collaborated with TUFFIER, on the subject of general anesthetization with cocaine injected into the spinal canal, dwelt briefly on the details of the technic and its dangers and difficulties. In the first place it is not easy to enter the subarachnoidean space always. Then, when the injection has been made the actual anesthetic effects may be very much delayed, entirely absent, very imperfect or very ephemeral. In addition to these which might be dismissed as insignificant are those which are certainly within the category of serious sequelæ. Among such are severe headache persisting many days and causing insomnia; paresis of either or both lower extremities, also apt to continue a long time; failure of rectal and vesical control, both during and after the operation; nausea and vomiting which have been known to exist for many days; muscular tremors or general trembling have been seen. All these one author claims can be disregarded when one considers the dangers of ether and of chloroform narcosis, but such is not the truth. Out of a total of only 2,000 spinal cocainizations six, possibly eight, deaths are to be attributed to the cocaine alone, although small doses were employed. Among many thousand records chloroform shows 1 death in 2,300; ether, 1 in 7,000; subcutaneous injections of cocaine, 1 in 7,000. Hence one must conclude that these three last named are the best anesthetics for all-round surgical use.

LABORDE, at the meeting of March 26, 1901, continued the subject by stating that for several years he has made experimental cocaine injections into the arachnoidean space with special reference to its hazards and has concluded that these are so real that the method should be abandoned for ether and chloroform narcosis. The dangers encountered are due either to deleterious local effects of the injection upon the nerve substance, or to absorption of the drug and diffusion of it through the spinal fluid so that the bulb is reached. Then occur the profound circulatory and respiratory depressions, the nausea and the vomiting, the severe headaches and so on, according as one or another center is affected. Consequently the method should be proscribed as too dangerous.

RICARD, at the Société de Chirurgie, March 13, 1901, spoke of the indications for operative interference in cases of puerperal infection and said that the primary step consists in determining the character and the extent of the lesions. The cases come usually within two categories. There are such as have a local peritonitis or lesion. Treatment must therefore comprise a determination of the limits and locus of such lesions and an appropriate operative intervention according to the findings. There are also those cases which are in fact a general peritonitis. In these treatment must be concerned with deciding whether or not to interfere at all and if so the fitting time and procedures of it. The total statistics of the French accoucheurs comprise about 2,640 cases of puerperal infection. Of these 105 were fatal. Of the grand total 805 showed a temperature of 39° C. or above, which would make the mortality-rate among them 13 per cent. In general terms the rate of mortality among the French in this class of cases is about 10 per cent. and this without any intervention

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except that which the usual methods comprise, that is no hysterectomy. After gathering all these statistics and carefully studying them, he has not been able to find one single indication among all the number which might be regarded as definite for hysterectomy. Upon the basis of this evidence he does not hesitate to declare against hysterectomy unless a very definite indication can be obtained from the circumstances of the case. In general terms the ordinary treatment of puerperal infection is adequate.

PICQUÉ, in behalf of Studer (Vernon) and Radouan (military surgeon), reported a case of gunshot wound of the humerus necessitating primary resection of the diaphysis for an united fracture. The result obtained by these two observers in this case was very excellent and satisfactory. He went on to relate a case of his own in which a crushing accident had been followed by pseudarthrosis between the two fragments of the broken humerus. Apparatus applied had proved most unsatisfactory and he had thought that a primary resection of the diaphysis would have been more advantageous. Nélaton said that in the matter of primary diaphyseal resections of the humerus it was impossible to formulate any fixed rule. In the first place it is necessary always to spare the skeleton as much as possible and to content one's self with the removal of splinters of bone and the smoothing and apposition of the larger pieces.

SOCIETY PROCEEDINGS.

ASSOCIATION OF AMERICAN PHYSICIANS.

Sixteenth Annual Meeting, Held at Washington, D. C., April 30 and May 1 and 2, 1901.

FIRST DAY—APRIL 30TH.

President's Address.—Dr. William H. Welch said that the day for formal addresses before such a body as the present one had gone by and on this, the sixteenth anniversary of the Association, he wished to allude only to a few points of present moment. He contrasted the present splendid opportunities in American medicine with those of fifteen years ago when this society had its birth, but, he added, the growth had not progressed along symmetrical lines. To-day, the opportunities for research and laboratory work in anatomy, and pathology and the more strictly technical branches of medicine were unexcelled in any country in the world and the strongest feature in the developmental history of the teaching of medicine in the United States was the superb opportunity offered in laboratory research, but that the scientific post-graduate work in clinical medicine had not been developed as it should be. In clinical medicine the few years in the hospital and others in dispensary work now afforded did not give that opportunity for careful clinical work which was the regular routine in the universities of Europe. The further development of the post-graduate work as hospital residents was a step that our teachers should encourage. In speaking of the overcrowded condition of the society, with practically no vacancies and a pressing waiting list, he called the attention of the members to the advisability of acting on Dr. Da Costa's suggestion of placing those members who were not in active membership on the honorary roll and thus permit the younger and more active members of the profession to enter their ranks. In a few admirably chosen words he spoke of those members who had died during the past year—Drs. J. T. Whittaker, J. M. Da Costa, S. C. Bussey and W. H. Draper.

Official Business.—The Reports of the Secretary and Treasurer were read and the names of ten applicants for membership were presented to be voted on. These were Drs. C. L. Greene of St. Paul, Wm. T. Howard, Jr., of Cleveland, George Blumer of Albany, Alfred S. Warthin of Ann Arbor, J. J. Kinyoun of U. S. Marine-Hospital Service; E. K. Dunham of New York, J. L. Morse of Boston, H. Jackson of Boston, A. R. Edwards of Chicago; for honorary membership, Dr. Charles F. Folsom of Boston.

Slow Pulse and Stokes-Adams' Disease.—This paper by Dr. Robert T. Edes of Boston was read by title.

Undescribed Cardiac Sound.—Dr. H. A. Hare of Philadelphia described a peculiar vibration occurring at the systolic interval, one inch to the right of the sternum, and one inch to the left of the nipple on the nipple level which did not correspond to any sound with which he was acquainted. It resembled, in part, a pericardial friction sound, but was dryer and was due to the contractions and vibrations of the chordæ tendinæ, especially when the heart muscle was not perfectly normal. In certain ways it closely resembled the sound "ching," short and quick and not too crisp. It was increased by mental excitement and fear, but not by muscular exercise.

Diagnostic Significance.—He had come to regard it as evidence of impaired myocardial action and had found it frequently following influenza, in the depressed physical condition. In the beginning of pulmonary tuberculosis it was a valuable diagnostic sign. It was not a subjective cardiac symptom.

In discussion Dr. Osler said he thought that possibly the sound was to be interpreted either as the first sound, with a peculiar crunching character or it was the delicate sound, slightly grating, which is frequently found at the apex resembling a pericardial friction sound.

Flint Murmur in Aortic Insufficiency.—In speaking of the frequency and the diagnosis, Dr. W. S. Thayer of Baltimore referred to the murmur first described by Flint in 1862; this was presystolic and limited to the cardiac apex.

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The sound was loud and blubbering and had all the characters of a mitral, direct presystolic murmur. In view of the fact that Gibson, in his recent text-book, says that he had not encountered this condition, Dr. Thayer had made a complete analysis of the cases presenting Flint's murmur in the wards of Dr. Osler in the Johns Hopkins Hospital. Since May, 1889, 74 patients with aortic insufficiency came to autopsy. In 45 of these there was heard at some time a rumbling, echoing murmur in diastole, limited to the region of the apex, and differing from the diastolic murmur of aortic insufficiency, *i.e.*, a murmur similar to that of mitral stenosis. It was presystolic in time and ended abruptly in a first sound or a systolic murmur. In 12 of these 45 cases there was a mitral stenosis associated with the aortic lesion. The results of an examination of 58 cases of aortic insufficiency showed that 33 had the Flint murmur. In 17 out of the 33 cases in which a Flint murmur was observed, the mitral valve was normal. Dr. Thayer propounds the question whether it is possible to distinguish positively the cases of aortic insufficiency with Flint murmur from those complicated with mitral stenosis during life. The more characteristic physical signs of mitral stenosis are the pulse, the sharp systolic shock at the apex, the presystolic or mid-diastolic apex thrill and murmur, and the sharp valvular first sound in the apex region. An analysis of the physical signs in 22 cases of uncomplicated mitral stenosis shows that the thrill was present in 54½ per cent., a sharp, systolic shock and snapping first sound in 68 per cent. and a presystolic murmur in 81 per cent. of the cases. A comparison of the cases with mitral stenosis and aortic insufficiency combined shows no very great differences except with reference to the sharp shock of the first sound.

Combined Lesions.—The tables quoted by the author bring out certain clearly marked clinical differences between the cause of aortic insufficiency with Flint murmur and those complicated with true mitral stenosis. The character of the murmur differs only in that the Flint murmur is never as rasping and intense as are the more marked murmurs of true mitral stenosis; it is commonly echoing and of moderate intensity. A large proportion of cases of true mitral stenosis, however, show similar slight thrills. The presystolic thrill is less frequent and less intense. In but a very small number of cases of aortic insufficiency with Flint murmur does the apex beat have the tapping character so significant of true mitral stenosis.

History of Cases Important.—In the 33 patients with Flint murmur there was a clinical history of acute rheumatism or chorea in but 13. In more than half there was clinical evidence of general arteriosclerosis although arteriosclerotic changes offer no diagnostic features, being as common in one type as another, whether the Flint murmur is absent or present. Arteriosclerotic lesions are usually located at the aortic orifice; in endocarditis the greater prevalency of mitral involvement is important.

Diagnosis.—A positive diagnosis of functional mitral presystolic murmur is difficult to make as it may differ in no way from true mitral stenosis. In true mitral stenosis, however, even if complicated with aortic insufficiency, the tapping systolic shock and the snapping first sound are common. On the other hand, the Flint murmur is associated usually with the characteristic heaving impulse of aortic insufficiency and the dull ill-defined, prolonged first sound. In cases of Flint murmur the pulse is usually wholly characteristic of aortic insufficiency. The diagnosis of Flint murmur is fairly safe when a presystolic murmur in the region of the apex is present in aortic insufficiency occuring in individuals with well-marked arteriosclerosis, especially in the absence of history of any acute malady ordinarily associated with the development of an endocarditis.

Dr. Cabot of Boston, from the results obtained in the wards of the Massachusetts General Hospital, bears out Thayer's results. In 10 patients coming to autopsy, showing during life this murmur, there were normal mitral valves.

Cause and Clinical Features of Cardiac Hydrothorax.—Dr. Alfred Stengel of Philadelphia limited his paper to the discussion more particularly of right-sided hydrothorax. Most writers regard pleural dropsy of cardiac disease as bilateral or unilateral only when one pleura is bound down by adhesions. In the study of 100 patients with cardiac disease he had 17 with hydrothorax. Five of these were right-sided alone, 3 left-sided, in two of which the right pleura were adherent. Nine were bilateral at one stage or other of the process. Two began as right-sided hydrothorax and then became bilateral, the others started as bilateral lesions.

Etiology.—The reason for the marked preponderance of right-sided lesions does not appear to be an accidental one. Stengel discards all the inflammation theories and supports those based on anatomical causation. The condition may be due to obstruction to the lymph channels or what is more probable to pressure on the venous circulation, more particularly to some mechanical obstruction to the vena azygos major.

Clinical Forms of Heart Disease Showing Hydrothorax.—From autopsy findings the author had found this condition in 73 per cent. of the cases in which there was mitral disease and only 17 per cent. in which tricuspid disease was present. Hence the enlarged right heart due to mitral lesions might be regarded as an efficient cause of pressure on the azygos vein. The difference in anatomical configuration of

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the right and left sides might be regarded as influencing this one-sided involvement.

In the discussion Dr. Osler said that the cause of the affection pointed clearly to a local affection because of (1) its chronicity, the affection lasting for years and recurring year after year; (2) because there is absence of edema in other parts of the body, and (3) because it is almost invariably right-handed.

Dr. J. C. Wilson of Philadelphia said that when the affection was bilateral it was frequently due to renal causes; he also said, in discussing the cardiac cases, that probably the anatomical fact that the heart, itself, occupied such a large part of the left pleural cavity was sufficient reason why the right pleural cavity was oftener affected.

Dr. E. G. Janeway of New York, in commenting on the difficulties in diagnosis, reported a case of typical right hydrothorax without valvular lesions, which was diagnosed by one eminent consultant as tuberculous in origin; by another as not a case of heart disease; by a neurologist as a case of Bright's disease, as renal symptoms had appeared in the meantime. An autopsy developed the fact that the patient had had a myocarditis fibrosa and died with a thrombus in the left ventricle.

Dr. A. Jacobi spoke of the frequently unrecognized occurrence of myocarditis diagnosed as mitral disease. The possibility of local myocardial degeneration should be borne in mind. This alone might induce a local hydrothorax.

Chronic Myocarditis and Fatty Degeneration of the Heart.—Dr. Beverley Robinson of New York City said that clinically these two conditions of cardiac degeneration are frequently most difficult to differentiate. The symptoms denoting cardiac weakness are slowness of the heart sounds at times, alternating with extreme rapidity, with sensations of fluttering and cardiac distress. Sometimes there is a systolic murmur. Attacks of dizziness or faintness may come on rapidly and repeat themelves with little or no sufficient cause. The pulse is often faint and there is an occasional lapse of one or two beats. This type he believes is due to a beginning fatty degeneration and are best treated by iron and arsenic in order to restore the anemic blood condition which is an invariable precursor. Intestinal antiseptics are also of service. Strophanthus and strychnine are demanded at the time and the systematic use of oxygen is beneficial.

Causes of Cardiac Degeneration.—These were dwelt on at some length. Obesity, senility, muscular exertion, gout, and syphilis were all discussed as factors in the causation of these destructive heart lesions. In senile hearts, among those who have led moderately careful lives the changes are apt to be a fibrous rather than of the fatty type, if the heart begins to show decided weakness, irregularity and intermittency. With these conditions there may be moderate enlargement—usually hypertrophic dilatation. The arteries are apt to be thickened and tortuous. The urine, while not showing any sugar or albumin, is ordinarily of low specific gravity and the whole quantity is diminished. With fatigue or dietary indiscretions, prolonged exposure to heat or cold the heart is apt to make the patients suffer. They sleep poorly, bronchitis may develop, and they frequently have faint and dizzy spells. These patients are those suffering from myocarditic changes.

Hemorrhage from Pleural Abscess.—Dr. A. Jacobi of New York reported a case of empyema occurring in a child of three years of age. Rib resection was practised and after 500 c.c. of pus had been evacuated a large hemorrhage occurred which was checked by packing with gauze. The hemorrhage was very profuse and came from a number of disseminated tufts arising from the pulmonary pleura. These tufts varied in size from mere pinheads to ½ cm. in diameter. The treatment by compression was satisfactory and the child ultimately recovered. He believed the case to be unique, as it seemed that the most important etiological factor, tuberculosis could be ruled out.

Cyst of the Omentum.—Dr. Jacobi also presented a specimen of simple cyst of the omentum occurring in a child two years of age. The affection was at first diagnosed as tuberculosis of the peritoneum and the abdomen was repeatedly tapped, with success, for a year. The tumor recurred and again subsided after tapping. On the appearance of inflamed axillary lymph-nodes, a laparotomy was performed and an enormous cyst was removed by Dr. Weir. This proved to be a simple uncomplicated cyst of the omentum, attached by two pedicles with numerous channeled cystic cavities. The child made a complete recovery.

In discussing Dr. Jacobi's first case Dr. J. P. Henry of Philadelphia remarked that, inasmuch as tuberculous pleurisy was very common and hemorrhage of the pleura was rare, tuberculosis could not be rightly considered as the main cause of hemorrhage of the pleura. In his experience scurvy was the most important etiological factor.

Dr. G. L. Peabody of New York said that there were undoubtedly many cases of hemorrhagic pleuritis which were never diagnosed because they recovered. Many of them might be tuberculous and yet not be diagnosed as such. Many cases diagnosed as pleurisy with effusion showed hemorrhage on tapping.

Dr. Osler commented on the fact that it was in the early stages, when the fresh tubercles were being formed, that hemorrhage was apt to occur.

Pneumonia with Remarkable Exudate.—Dr. Charles Cary of Buffalo reported a most remarkable case of extensive pseudomembranous exudate occurring in a case of acute lobar pneumonia in a boy eleven years of age. The disease began as a simple tonsillitis, with sore and reddened throat, no membrane and negative bacterial findings. The boy subsequently developed a temperature of 103.5° F., and the lungs finally became consolidated. The picture was that of an acute

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double lobar pneumonia. A thick, tenacious, fibrinous exudate formed in the mouth and fauces and on the nasal mucous membrane. This the boy would pick off and beneath the exudate there would be left a raw, granulating surface. A similar membranous exudate developed over the glans penis, but this did not extend into the urethra. There also developed a marked tympanites and a similar membranous exudate was found on the mucous membrane of the rectum. A fibrinous pleurisy was also diagnosed.

Pneumonic Character of Exudate.—Microscopical examination of the exudate showed it to be composed of fibrin and pus and there were numerous diplococci of pneumonia. Streptococci were also present, but the bacillus of diphtheria and Neisser's gonococcus were absent. Animal inoculations demonstrated the pneumococcic character of the infecting agent. The patient ultimately recovered after a three months' illness.

Pernicious Anemia.—Dr. F. P. Henry of Philadelphia reported on a number of cases of pernicious anemia which he discussed at the last meeting of the Association in 1900. He said that the tendency to regard megaloblasts as pathognomonic was unnecessary. The diagnosis was better founded on the general signs and symptoms in addition to the blood findings. Nucleated cells were not indicative of pernicious anemia solely, since they were found in other conditions, notably in *bothriocephalus latus* infection. He felt that a clinical diagnosis was to be preferred to a laboratory investigation; thus bothriocephalous anemia was not separable by microscopical means from cryptogenic anemia.

Progress of Pernicious Anemia.—Dr. Frank Billings of Chicago discussed similar cases reported by him in 1900. He showed by an admirable series of charts the general progress of a number of cases. Of twenty patients reported ten had died, of the remainder four were under observation. He brought out the fact that with a decided decline in the patient's condition, Van Noorden's crises, there appeared a large number of nucleated red cells, although a few cases did not follow this general law. The continued observation of the cases had not developed any new facts save that the periods of improvement in some were longer than is usually taught in the text-books.

Volume Index.—In view of the uncertainty of blood counts, Dr. Billings in collaboration with Dr. J. A. Capps, of Chicago, had elaborated a new unit, entitled the volume index. This represents a fraction whose numerator is the percentage of red-cell count as determined by the hematocrit and whose denominator is represented by the percentage of red-cell count as determined by the Thoma-Zeiss hematocytometer. This volume index bears a certain ratio to the color index which is the fraction whose numerator is represented by the percentage of hemoglobin and denominator by the percentage of red blood-cells as determined by the hematocytometer.

Spinal Cord Changes.—Dr. Billings reported on one patient that developed the typical spinal cord lesions of pernicious anemia reported by Noune, Dana, and other observers. The clinical picture and pathological findings were typical. The spinal cord degenerations as reported on by Dr. L. F. Barker, of Chicago, were mainly confined in the lumbar cord to the efferent tracts—the column of Goll and Burdach, the direct cerebellar tract and Gower's tract. In the cervical cord the lesions were more diffuse, being almost myelitic in character.

Dr. James J. Putnam in discussion asked if the changes in the cord were pathognomonic of pernicious anemia. He was inclined to hold that in other conditions, more particularly of malnutrition, similar cord changes might be found.

Dr. Osler drew attention to a type of spinal cord lesions, preceding the development of the pernicious anemia, as outlined by Risien, Russell, and Battey of England.

Dr. Shattuck of Boston spoke of pernicious anemia following sudden mental shock and reported a case occurring in a healthy woman following the sudden death of a son.

Acute Splenic Miliary Tuberculosis.—Dr. D. D. Stewart of Philadelphia reported an unusual case of acute miliary tuberculosis originating in the spleen. The patient was a trained nurse, who after protracted work with a typhoid case contracted an influenza and before fully recovering commenced to nurse a tuberculous patient. Bad general hygienic surroundings, poor food and reduced vital tone were the probable factors predisposing to the infection. She was sick sixty-eight days and died of acute general miliary tuberculosis with extensive involvement of the spleen. The spleen was first attacked and showed the oldest and most extensive lesions.

Relapsing Fever of Hodgkin's Disease.—Dr. J. H. Musser, of Philadelphia, considered in detail the peculiar relapsing fever of pseudoleucemia, which he regarded as possibly tuberculous in its character, although its remittent type was peculiar and not absolutely typical of that condition. He reported several cases and spoke of some of the prodomata of the fever, as mental irritability, pain in the glands of the groin, anorexia and most obstinate insomnia. The blood was negative and the treatment unsatisfactory.

Dr. W. H. Welch spoke of the gradually growing conviction in pathological circles that a large number, if not most of the cases of Hodgkin's disease were tuberculous in their character.

Blood in Lead-Poisoning.—Dr. Alfred Stengel, described for Drs. C. Y. White and William Pepper of Philadelphia, a type of degeneration of the red cells of the blood which was present in lead-poisoning and which when found offered a diagnostic aid in the study of this affection. It consisted of a granular degeneration of certain elements in the erythrocyte which became manifest by its reaction to certain basic anilin dyes, notably thionin. The granules are small, evenly distributed or clumped, varying from very minute puncta to granules the size of

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eosinophile granules, round or club-shaped. They may be found in the normal or irregularly shaped red cell. They are not found in the fresh blood, but require starving technic to make them manifest. Stengel does not regard them as mitotic remnants of the nucleus, but considers them as true degenerations. His experiments included a series of patients with well-marked lead-poisoning, lead workers (clinically sound), cases exposed to high temperatures, and animal poisoned experimentally.

Diagnostic Features.—The granules are always present in well-marked cases of lead-poisoning; the more severe the grade, the coarser the granules. In cases of lead workers the granules were always present although clinically the patients were well. As the patients recover the granules disappear.

Toxic Origin of Neurasthenia and Melancholia.—Dr. M. Allen Starr of New York said that among the many types of neurasthenia there were at least four with fairly well-marked characters: There were those due to anxiety and mental distress; cases due to overexertion and stress; others due to beginning degeneration of the neuron and destined to go on to organic breakdown, and a fourth due to toxic causes. He limited his discussion to this last class. Here there seemed a definite cycle of symptoms; there was headache, fulness in the head, irritable temper, lack of ability to concentrate the attention, irregular flushings; dyspeptic symptoms; regurgitation, eructation, constipation, foul and feculant stools were common. There was a definite mental cycle. From noon until 9 P.M. the patient feels better, from that time the patient gets worse until 4 A.M.; when he awakes he is extremely depressed and remains so the entire morning. At noon greater cheer comes and the cycle repeats itself.

Etiology.—In as much as this definite cycle is manifest it must be dependent on a habit cycle of the patient. This, Starr thinks, is associated with gastro-intestinal absorption and hence the causative agent is of a toxic nature which he believes is formed in the stomach and intestines.

Treatment.—Regimen is paramount. Increased water intake and a diet peculiarly adapted to the individual patient. Drug treatment should be digestant and eliminant. Small doses, $^1/_{10}$ gr., calomel frequently repeated and combined with ¼ gr. doses of podophyllum, Carlsbad salts and sodium salicylate at morning meal. Intestinal antisepsis with sulphocarbolate of soda, gr. v, potassium permanganate, gr. i; or, salol, gr. v, castor oil, ♏ v; or sulphocarbolate of soda, gr. v, sodium benzoate, gr. v; beta-naphthol, gr. v. These remedies should be put up in capsules which pass into the intestine before setting free their contents. This medication will break up the periodicity; baths, exercise and rest will complete the cure.

Addison's Disease.—Dr. W. W. Johnston of Washington presented a man with Addison's disease, shown last year, who on suprarenal capsule had improved and was now able to do full work.

Neurasthenia and Its Recognition.—Dr. W. W. Johnston used the case of Charles Darwin as an illustration showing how the lack of recognition of the main causative factors in neurasthenia is responsible for many breakdowns and lost opportunities. The diversity of symptoms of the neurasthenic makes him a prey to the narrow-minded specialist, as in this condition there is such a "positive exuberance of symptoms." The treatment of gastric disorders offers but a very limited outlook in the treatment of the condition. Rest is of more value than medication, but of still more value is the education of the rank and file of physicians to the position of being able to recognize the condition.

Need for Sanatoria.—The author holds that there is a distinct need for special sanatoria for the treatment of this condition. Mixed cases should not be allowed and the attendants all should have had a special training. Educational blunders often condemn children to lives of invalidism and the offspring of neurasthenic parents should be carefully and soberly educated.

In discussion Dr. James J. Putnam said that his observations did not bear out the belief in a definite cycle in neurasthenics; cause and effects were extremely variable and difficult of accurate measurement. Well conducted sanatoria were much in demand.

Dr. C. A. Herter of New York referred to intestinal putrefactive products as bearing on the question of a toxic type of neurasthenia. The amount of excretion of ethereal sulphates was an indication of the grade of mental depression. In melancholia they were often much increased. Experiments on indol were referred to, this substance producing such toxic effects as increased nervous irritability and depression. There is a definite relationship which may be posited although perhaps the exact toxic product is not known.

Diabetes, Diabetic Coma and Acid Intoxication.—Dr. C. A. Herter read a highly suggestive and important paper on the relation of acid intoxication to the development of diabetic coma. In order to measure the amounts of organic acid, mainly di-acetic and B oxybutyric acids, he had followed two main methods, one known as the method of balancing acids and bases, the other by estimating the nitrogen of ammonia. In health, by the former method, it is found that, speaking generally, the acids and bases neutralize each other while in diabetes, especially approaching a period of coma, there is a marked increase in the total bases, measured as sodium, which indicates a much larger amount of organic acids with which the basic compounds combine, in order to neutralize the same. The method of determining by the N in NH_3 shows that in diabetic coma the amount of nitrogen is enormously increased.

Prophylaxis of Coma.—Both methods, therefore, afford valuable information bearing on

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the developmental history of diabetic coma and offer valuable forewarning of the appearance of this complication. Inasmuch as the amount of sugar in the urine does not show any definite ratio to the amount of organic acids, it is obvious that the ordinary sugar tests afford little evidence on this point. Dr. Herter gave brief summaries of three groups of cases showing the relationship of the excretion of the organic acids to coma. Most cases showing increased amounts of organic acids, reckoned as B oxy-butyric acid, do badly; the reverse is not always true however. In his conclusions he said that the method of balancing acids and bases, as a chemical procedure, offered the best means of determining the exact quantitative relations of excretion of the organic acids; the determination of nitrogen, as ammonia, is useful as a clinical method especially from a prophylactic point of view; an increase of organic acids precedes and is coincident with diabetic coma; crotonic acid is usually present in the urine in diabetic coma; an increase of oxy-butyric acid may be present for a long time, days, weeks or months, before the development of coma, yet if the amount of organic acids in the urine is persistently over 25 grams daily, coma is certain to develop; cases with as much as 30 grams daily of oxy-butyric acid have been known to go about in comparative comfort; the ratio of glucose and acid intoxication is not constant and hence sugar determinations have little prognostic significance; a diminution in the amount of ingested carbo-hydrates usually diminishes the amount of excretion of organic acids.

Metabolism in Diabetic Coma.—Dr. E. P. Joslin of Boston corroborated in a striking manner the results of Dr. Herter in the recital of a case under the observation of Dr. Pfaff and himself. A rigorous alkaline treatment failed to save the patient when in coma.

In discussion Dr. Vaughan said that an excess of nitrogenous food often did harm, especially as these organic acids probably did not come from carbohydrate food.

Dr. Pfaff of Boston said that in the diet of diabetics it is wise to exclude fats very rigorously as most of the acetone is developed from such bodies. The irritation of the kidneys is often due to even very slight amounts of carbohydrates ingested. Acid intoxication is a step nearer the ultimate solving of the problem of diabetes, but underlying all were the deeper mysteries of perverted metabolism.

Dr. Herter said that he did not regard the failure of the alkaline treatment militated against the theory of acid intoxication. The trouble lay in the continued formation of new organic acids; moreover, the frequent success of the intravenous infusion of alkaline salts served to support the doctrine. He said that cutting off nitrogenous diet would be unwise, since, granting that some of the acids might come from proteids, the major portion of the neutralizing ammonia also comes from the proteids.

Classification of Poisons and Intoxicants.—Dr. J. G. Adami of Montreal gave a short dissertation on this subject, claiming that clearer ideas of terminology were of value. He offered a slight modification of Von Jakoch's system of classification.

Demonstrations of interesting specimens were given in the evening by Drs. C. C. Bond of Richmond, Ind.; William F. Councilman of Boston, H. C. Ernst of Boston, S. Flexner and R. M. Pearce of Philadelphia, W. H. Welch, E. L. Opie, W. G. MacCallum and Buckley of Baltimore.

Election of Officers.—J. C. Wilson of Philadelphia was elected President; James Stewart of Montreal, Vice-President; S. Solis-Cohen of Philadelphia, Recorder; Henry Hunn of Albany, Secretary; J. P. Crozer Griffith of Philadelphia, Treasurer; Frank Billings of Chicago, F. P. Kinnicutt of New York, Councillors; Wm. Osler of Baltimore, Member of the Executive Council of the Congress and F. H. Williams of Boston his Alternate.

(To be Continued.)

BOOK REVIEWS.

LECONS DE PHYSIOLOGIE EXPERIMENTALE. By Drs. R. DUBOIS and E. COUVREUR. Georges Carré et C. Nand, Paris.

THESE lessons constitute an outline of the work in physiology given to the students of the University of Lyon and are put forth expressly with the purpose of saving the student's time and to relieve him from the task of taking and copying notes.

The work is more than a mere record, however, it is a carefully-prepared and well-illustrated guide to the study and practice of experimental physiology. It is particularly opportune and to be recommended warmly at this time when the methods of observation and experiment are taking the place of the dry-as-dust didactic lecture in some of the more advanced medical colleges of this country.

A PRACTICAL TREATISE ON MATERIA MEDICA AND THERAPEUTICS. By JOHN V. SHOEMAKER, M.D., LL.D., Professor of Materia Medica, Pharmacology, Therapeutics and Clinical Medicine, Medico-Chirurgical College of Philadelphia. Fifth Edition. F. A. Davis, Philadelphia, New York, and Chicago.

DECIDEDLY Dr. Shoemaker's book is very useful. From many points of view it is excellent, from others the reverse. Among its desirable features may be classed its thorough appreciation of the pharmaceutical side of the dispensing of medicines and its richness of practical hints in the use of drugs. Its prescriptions are numerous and well selected and from

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a knowledge of a student's needs, we know that they are extremely useful.

The method of grouping drugs is alphabetical. For the student this appears to us to be detrimental to the value of a work of this kind. It, moreover, compels a repetition that is neither desirable nor necessary.

AN INTRODUCTION TO PHYSIOLOGY. By WILLIAM P. TOWNSEND PORTER, M.D., Associate Professor of Physiology in the Harvard Medical School. The University Press, Cambridge, Mass.

THE flood-tide of laboratory manuals has been in evidence in many branches of natural science, but thus far the student of physiology has been more consigned to monumental tasks of memorizing voluminous tomes termed physiologies.

We trust that the example set by Dr. Porter in this simple and accurate volume will be followed by other teachers and that laboratory methods of teaching physiology will be as universal as they are in the cognate branches of anatomy, pathology, and chemistry. The book is a laboratory guide and discusses the methods and why and wherefore of animal experimentation.

A MANUAL OF OBSTETRICS. By A. F. A. KING, M.D., Professor of Obstetrics and Diseases of Women in the Medical Department of the Columbian University, Washington, D. C. Lea Brothers & Co., Philadelphia and New York.

THE art of midwifery differs somewhat from most other branches of medicine in that, from the very nature of things, very radical innovations in practice or theory are hardly to be expected in the course of a few years and though a guerrilla warfare is constantly being waged in the outlying borderlands that are concerned with such minor considerations as the value of antepartum douching, chloroform *vs.* ether, the dangers of the antepartum full bath, methods of treating the cord, etc., there is a gratifying unanimity of opinion on all important points and in the main the process of child-bearing is allowed to go on much in the same way that it has ever since the last great change was made after the discovery of the principle of antisepsis. Therefore the appearance of the present edition of this well-known handbook so closely on the heels of its predecessor must be taken, not as evidence of the rapid progress of the science it deals with, but as an indication of the popularity it has attained and of its usefulness to a large circle of readers. That the volume contains much less letterpress than do the more pretentious treatises is to be ascribed to conciseness of expression rather than to any omission of matter, for even a careful search reveals but few topics that are not well covered in the limited space devoted to them. It must be admitted, however, that the dismissal of the subject of artificial infant feeding is rather summary and that even a text-book on obstetrics intended primarily for students might profitably vouchsafe its readers more information on this head than is to be found in the single paragraph devoted to it. As a whole, the book is undoubtedly the most valuable shorter exposition of the subject that we have and it cannot be praised too highly for the use of students or even as a convenient reference work on practical points for practitioners.

A TEXT-BOOK OF HISTOLOGY, INCLUDING MICROSCOPIC TECHNIQUE. By A. A. BÖHM, M.D., and M. VON DAVIDOFF, M.D., of the Anatomical Institute, Munich. Edited by G. CARL HUBER, M.D., Junior Professor of Anatomy and Director of the Histological Laboratory, University of Michigan. W. B. Saunders & Co., Philadelphia.

THIS book is a translation of one of the best known German text-books on the subject of histology. For variety of information and comprehensiveness, few works are its equal. As stated by the authors in the preface in the first German edition, their aim was to present as completely as possible, both from a theoretical and practical point of view, the subject-matter of the lectures and course in histology given in the University of Munich. The examination of the work shows that the authors have amply considered the embryological basis in the most lucid and practical way; the purely morphological part is also clearly summed up and in this portion will be found the most recent contributions to the science. Thus the American editor has incorporated the recent studies of Mall on the structure of the spleen; and the nervous system has been equally developed from the standpoint of recent contributions. The value of the book is further enhanced by an excellent introductory chapter on general microscopical methods. Among the English books this takes the first place.

BOOKS RECEIVED.

The MEDICAL NEWS *acknowledges the receipt of the following new publications. Reviews of those possessing special interest for the readers of the* MEDICAL NEWS *will shortly appear.*

THE HISTORY OF MEDICINE IN THE UNITED STATES. From the Earliest English Colonization to the Year 1800. By Dr. F. R. PACKARD, 8vo, 542 pages. Illustrated. J. B. Lippincott Company, Philadelphia and London. $4.00.

PULMONARY CONSUMPTION, AND ALLIED DISEASES OF THE LUNGS. By Dr. THOMAS J. MAYS. 8vo, 540 pages. E. B. Treat & Company, New York. $3.00.

INFANT-FEEDING IN ITS RELATIONS TO HEALTH AND DISEASE. By Dr. LOUIS FISCHER. 8vo, 350 pages. Illustrated. F. A. Davis Company, Philadelphia and Chicago.

A TEXT-BOOK OF DISEASES OF THE NOSE AND THROAT. By D. BRADENKYLE. Second Edition. 8vo, 650 pages. Illustrated. W. B. Saunders & Company, Philadelphia and London.

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ORIGINAL ARTICLES.

PRACTICAL FOOD PRESCRIBING.

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IN presuming to add to the long list of papers upon infant feeding, I disavow at the outset any claim to a new method. I believe, however, that some phases of the subject can be presented more clearly than they have yet been and that a method already devised may be made still more simple, so simple, in fact, that any practitioner can use it without learning complex methods or consulting text-books and formulas. I have tried to put theory aside and tell *how*, not *why*.

The knowledge required by the practitioner to become a good infant feeder is considerable and may be classified as follows: (1) A knowledge of breast milk; (2) artificial foods, their chemical and physical composition; (3) good cow's milk and how it is to be secured; (4) the differences between cow's milk and breast milk; (5) the modifying or adapting of cow's milk to each individual infant; (6) the character of the food required in health and disease.

Breast Milk.—The proposition that the child's natural food should be the standard by which to judge artificial food is too rational to require discussion. Breast milk, therefore, has been universally adopted as that standard. But it may be said that there is no standard for breast milk, for no two samples are precisely the same and no two chemists give exactly the same analyses; true as regards minute precentages, which means that there is no one strength of food provided by Nature for every infant; untrue as regards the fact that all breast milk consists of fat, milk sugar, proteid, salts, and water. Although there are some who differ, the majority of authorities still give the following as the composition of average breast milk: fat, 4 per cent.; sugar, 7 per cent.; proteid, 1.5 per cent.

Artificial Food.—Without entering upon prolonged discussion, it is sufficient to say that all so-called infant's foods are deficient in one or all (most of them in all) of the important elements —fat, milk sugar, and proteid. Fat is almost universally lacking, but its importance is evident from its large relative amount in breast milk. Not only are the foods lacking in chemical composition, but they are in large measure derived from vegetable and not from animal sources. The organs of the infant were not designed to digest vegetable substances.

Diluted condensed milk always produces rickets if its use is prolonged, for it is deficient in fat and proteids. A dilution of 1 in 12, the one most commonly used, contains but one-eighth the amount of fat and one-third the amount of proteid of average breast milk. Double that strength contains but one-fourth the proper amount of fat, but the sugar is so excessive as to soon upset the stomach. A food so wide of the standard is not a proper one for an infant. Notwithstanding certain drawbacks, cow's milk, properly modified, is unqualifiedly the best artificial food for infants.

Good Cow's Milk and How It Is Secured.—Notwithstanding all that has been written upon the subject, the profession is not sufficiently awake to the importance of clean milk, nor has the average practitioner studied sufficiently the methods necessary to obtain it. It is the growth of bacteria that renders cow's milk unfit for food. But it is impractical for practitioners to count the bacteria or to judge of the number present by appearances. It has been observed, however, that there is a close relation between the acidity of the milk and the deleterious bacteria. "Milk with the least acid," says H. L. Russell, "as a rule is the freest from spore-bearing bacteria." Taking advantage of this fact, a method has been devised by Farrington by which the acidity of milk may be easily determined by means of alkaline tablets. They are largely used in the dairy industry. A special form of these tablets is now made for the use of physicians and are known as Ideal Milk Testers. By their use the acidity of milk may be quickly tested and its safety as a food may be quite accurately judged.

One of the most important details in the handling of milk is rapid cooling immediately after milking. It is the belief of many competent observers that Pasteurizing is not necessary when adequate precautions are taken against the entrance of bacteria, and the milk is immediately cooled below 60° F. and not allowed to rise above that temperature. In milk that is immediately bottled and cooled, the cream will rise almost completely in four hours. The milk of several cows is better for an infant than that of a single cow, for it will vary less in its composition from day to day.

Milk should be sterilized only in rare instances. It is not necessary to here discuss the objections to sterilization. Milk should be Pasteurized when there is the slightest doubt as to its cleanliness and when it cannot be kept below 60° F. Pasteurizing is designed to accomplish one result and one alone—the destruction of bacteria. It does not render the milk more digestible nor diminish in the slightest degree the necessity for

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modifying it. Neither will Pasteurizing destroy poisonous products which have already been formed. It is infinitely better to prevent contamination by proper methods of production and handling than to try to prevent the results. Under present conditions, however, Pasteurizing is often a necessity and has saved thousands of infant lives.

Breast Milk and Cow's Milk.—The proteid of cow's milk is from two to three times greater than that of breast milk. In modifying cow's milk, therefore, the proteid must be reduced by diluting the milk. This reduces the fat and sugar also. Hence fat and sugar must be added. The theoretical problem is simple: Reduce the proteid by diluting the milk; increase the fat and sugar by adding those elements. This process is known as modifying, and is nothing but changing the constituents of cow's milk to make them available for the use of the human infant. Modified milk is not of any particular composition, nor is there any particular modification that suits every infant. It is simply milk adapted to each case. Misunderstanding of this point has been perpetuated by the persistance with which most writers upon feeding have used formulas, supposed to be proper for different ages. Such a course has practically made modified milk nothing more than a series of mixtures. It has prevented the more general acceptance of the method because no practitioner could remember the formulas, and would not carry the books and magazines with him, to be opened and copied every time he wished to prescribe food for an infant. In the quiet of the office such formulas may be useful, but most food prescribing is done in the home of the patient.

What is needed by the general practitioner is a method by which he can successfully prescribe food without the use of books and mathematical calculations. Such a method is at hand and is almost as simple as diluting condensed milk.

Modifying Milk.—It is useless to think of milk as being of a definite composition. It is not. Some is rich and some is poor, but the top nine or ten ounces of cream and skim milk from a quart of any milk contains fat three times the proteids. The top fifteen or sixteen ounces contains fat two times the proteids. Hence between these nine and fifteen ounces, we can get fat anywhere from two to three times the proteids, which is the range in woman's milk. By using a one-ounce dipper, devised by Dr. Chapin, for removing the top milk, twenty-five different ratios between fat and proteids can be obtained from one quart of milk.

The one object in modifying milk is to obtain a mixture upon which the infant will thrive. A pediatric specialist of large experience will find such a mixture more quickly than will a general practitioner with small experience. Specialists have no secret process, however. They try combinations, just as other doctors must. If they have any secret, it is a very open one and may be thus expressed: *Begin on a weak mixture and work up to the point of tolerance.* The average practitioner does precisely the opposite. He begins on a mixture too strong and after weeks of indigestion gradually works *down* to the point of tolerance. He is afraid to dilute the milk sufficiently at the outset.

In the modifying of all ordinary milk, it does not matter whether it is rich or poor, for cow's milk from the same source does not often vary more than does breast milk. The ordinary infant readily tolerates some variation in both breast milk and cow's milk. If we begin with a weak preparation we find what the child can take—and that is successful feeding. We reach that practical result whether the milk be high or low in fat and proteid. We give the child what it can digest and thrive on. We may do this without regard to percentages, though it is better to know as nearly as possible what the strength of each mixture is.

The following table will explain more clearly the statements regarding the proportion of fat and proteids in the upper nine or fifteen ounces of milk and cream. I am well aware that some recent experiments have shown a lower percentage in the seven-ounce cream. Below that, however, all chemists give virtually the same results. It is rare in actual practice that cream stronger than fourteen per cent. is required.

The table is based upon milk containing 4 per cent. each of fat and proteid.

TABLE I.

7	ounces	top	milk	contain	16	per	cent.	fat,	4	per cent. proteid
8	"	"	"	"	14	"	"	4	"	"
9	"	"	"	"	12	"	"	4	"	"
11	"	"	"	"	10	"	"	4	"	"
15	"	"	"	"	8	"	"	4	"	"
20	"	"	"	"	6	"	"	4	"	"

These top milks simply require diluting three to ten times. When the milk is to be well diluted, the top 9 ounces are commonly required; as the dilution is reduced, 12 or 15 ounces.

For example, dilute nine-ounce top milk to one-fourth and we have 3 per cent. fat and 1 per cent. proteid. Dilute fifteen-ounce milk to one-half and we have 4 per cent. fat and 2 per cent. proteid. For a young infant, dilute nine-ounce top milk eight times and we have 1.5 per cent. fat and .5 per cent. proteid. With the same dilution, if we take off two ounces less (seven-ounce top milk), we have 2 per cent. fat and the same proteid. Take two ounces more (eleven-ounce top milk) and we have 1.25 per cent. fat and the same proteid. We thus regulate the proteid by diluting; the fat, by the amount taken from the top.

Simply divide the figures of this table by the number of times the milk is diluted and the percentages of fat and proteid in the mixture are known. The claim is not made that this will result in the same absolute percentages with every milk. No modification can possibly do that, unless the quality of the milk is known. It will, however, be as accurate as any other method of home modification and will be sufficiently close

for ordinary cases. Systems of formulas based upon average milk are certain to fail in many cases because all milk is not average. While it is desirable that the practitioner should know just what percentage the infant is getting, he can prescribe satisfactorily if he will but begin low and work up slowly by taking gradually less from the top of the milk or diluting it less, thus changing the fat or proteid as he desires.

If the whole amount of top milk is not required, it should still be dipped off. The portion not required may be returned to the bottle. For example, if the child is to have 24 ounces of food, of which one-fourth is to be nine-ounce top milk, we use 6 ounces of the latter and return 3 to the bottle. This point must be carefully explained to the mother, or she may take off but the six ounces required, thus increasing the amount of fat by 50 per cent.

The Sugar.—Having obtained the requisite percentage of fat and proteid, we must add sugar. The accuracy of the following figures is evident at a glance:

TABLE II.

1	part	sugar	to	20	parts	food	adds	5	per cent.
1	"	"	"	25	"	"	"	4	"
1	"	"	"	33	"	"	"	3	"
1	"	"	"	50	"	"	"	2	"

This renders the problem very easy, but still easier is the fact, recently pointed out by Holt, that for mixtures below 2 per cent. of proteids (those less than half milk) one ounce of sugar to 20 ounces of mixture, with the sugar already in the milk, will give a total of from 6 to 7 per cent. of sugar. These are the percentages required in almost every formula for the first ten months.

An ounce measure will hold two-thirds of one ounce of milk sugar by weight. If measured by a tablespoon, two level tablespoonfuls of granulated sugar or almost three tablespoonfuls of milk sugar equal one ounce. Milk sugar should be used when possible. When cane sugar is used, the percentage should not be as great as for milk sugar, for the child does not usually digest it as well.

Diluent.—Three forms of diluent are in common use, boiled water, plain gruel, and digested gruel. There has been more discussion on the subject of diluents during the past two years than upon any other question in infant feeding. Some strongly oppose the use of anything but water, using chiefly the argument that in employing a gruel, we are introducing an element into the food not found in breast milk. This argument loses its force when we remember that in the nitrogenous elements of cow's milk we have substances not found in breast milk. The decision should be based upon experience rather than upon theory. If gruels aid in digesting the proteids of cow's milk, no theory should be allowed to prevent their use. My personal experience is that many children do perfectly well with water as a diluent, while others digest better when a predigested cereal is added. Digested gruels are certainly more effective than plain gruels. They are certainly now used much more largely than they were a few years ago by nearly all leading pediatric practitioners. These gruels are made from oatmeal, rice, barley, or wheat flour. A heaping tablespoonful is made into a gruel with a pint of water by boiling for fifteen minutes. The gruel is allowed to cool to about 130° F., when a teaspoonful of Cereo is added, which converts the starch into absorbable dextrin and maltose. Sometimes one cereal agrees with an infant better than another. The object of the digested gruels is not so much to add nutriment to the food as to render the caseine more digestible.

Percentage Feeding.—By this term we mean nothing more in ordinary food prescribing than a method of measuring the strength of our mixtures. In laboratory feeding alone, do we write our prescription in percentages. In home modifying we write our prescription as a formula, but we do not know what we are giving unless we know its percentage strength. It is the only means of accuracy. Still percentage feeding has been made an unnecessary bugbear to most physicians who regard it as an intricate and cumbersome contrivance.

By the method of modifying just described, we can readily obtain any percentages, if we wish to begin with a percentage prescription. As the ordinary range of top milk required is between 8 per cent. and 12 per cent., we can take three items from the table already given as a working table, as follows:

TABLE III.

9	ounces	top	milk,	12	per	cent.	fat,	4	per cent. proteid.
11	"	"	"	10	"	"	"	4	"
15	"	"	"	8	"	"	"	4	"

These few numbers are all that are necessary to enable one to obtain a given strength of milk. The one source of error is the varying strength of different milks and that applies to every method of home modification when we try to make a mixture that will contain definite percentages.

Suppose we wish to make a mixture containing fat, sugar and proteids in the proportion of 4, 7, 2. To get 2 per cent. of proteid, we must divide the 4 per cent. proteid of top-milk by two. We then require a top milk containing twice the amount of fat desired, or 8 per cent. This we obtain by taking fifteen-ounce top milk and diluting it to one-half. That is, we divide the proteid by two and multiply the fat by the same number. Suppose we wish a mixture of 2, 6, 0.8. To obtain 0.8 per cent. of proteid from 4.0 per cent., we divide by five and must, therefore, take a top milk containing the fat five times as strong, or 10 per cent. Take, therefore, eleven-ounce top milk and dilute it to one-fifth. The sugar in each case should be one ounce to 20 ounces of the mixture.

I have purposely refrained from giving formulas. They are a detriment and a drawback to the practitioner and serve no useful purpose in

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ordinary home prescribing. They are useful for reference in cases of difficult feeding and may be found in abundance in the text-books of Rotch and Holt. For ordinary practice a less cumbersome method is necessary.

Character of the Food Required.—The policy of beginning feeding with a weak mixture should not be misinterpreted. The infant should not be kept on such a diet. The strength should always be slowly but steadily increased. On the second day of life an infant can usually take nine-ounce top milk diluted eight times, to be increased after the fourth day. For an older child nine-ounce top milk may be diluted from five to seven times at the outset. One important fact has been demonstrated by experience—few children under six months can take cow's milk in the strength of average breast milk.

Having found a satisfactory food, it is not advisable to change upon slight provocation or to try to meet every little symptom by changing the formula. If the child becomes acutely ill it is best to dilute, so as to reduce all the elements. If the illness is indigestion or diarrhea, stop milk at once and completely. Roast beef is an excellent article of diet for healthy adults, but very inappropriate when they are suffering from vomiting or diarrhea.

Summer diarrhea should not be considered a simple indigestion, but a poisoning by bacteria which thrive particularly well in milk. Even in simple indigestion, it usually saves time and trouble to stop the milk for a few feedings and give broth or digested gruel, just as one would stop the ordinary diet of an adult. Restlessness at night is commonly due to indigestion, and may frequently be cured by making the last feeding of digested gruel.

Chronic indigestion, with beaded ribs and sweating of the head in sleep, suggests rickets and indicates more fat and perhaps proteid.

Painful joints and purple gums suggest scurvy and indicate a diet of fresh, unheated milk with, perhaps, beef-juice and orange-juice. Eczema in young babies is sometimes relieved by reducing the fat. Constipation with hard, dry stools may sometimes be relieved by increasing the fat, but caution should be used against increasing it excessively. Colic, flatulence, and restlessness are an indication for the reduction of the percentage of proteids.

Regurgitation of the food with perhaps small frequent passages, suggests excessive fat and indicate its reduction. Green, acid stools, with perhaps gas and colic, suggest an excess of sugar. Curdy stools call for more dilution of the top milk. Foul stools call for bowel washing and reduction or stopping of the milk.

It is rare that symptoms of indigestion can be completely relieved by reducing any single element. It is usually best to reduce all for a time and slowly work up using particular care with reference to the element that is apparently the offender.

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STUDIES IN THE BACTERIOLOGY OF TYPHOID FEVER, WITH SPECIAL REFERENCE TO ITS PATHOLOGY, DIAGNOSIS AND HYGIENE.

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THE discovery and interpretation of the exact bacteriological conditions and pathological lesions existing in the various stages of typhoid fever have for years occupied the attention of investigators. Patient observation and careful experimentation have brought much to light in regard to these conditions and lesions. Nevertheless, in the case probably of no other disease, the inciting organism of which has been so definitely determined and thoroughly studied in pure culture, has so much of the experimental work proved unsatisfactory and interpretation been so hampered by untrustworthy data.

This, I take it, has depended largely upon two sets of conditions underlying these investigations and experiments; in the first place upon the slight susceptibility of the usual test animals to a true typhoid infection, the levity of the lesions induced by such infection or intoxication, and the lack of conformity between the disease process in these animals and that occurring in man, having of necessity left much in doubt and permitted of different interpretations.

In the second place this has depended upon the close similarity of the colonies of the typhoid bacillus to those of the various bacilli belonging to the so-called colon group when these bacilli are grown upon nutrient pepton-gelatin and pepton-agar. That these media should have been those in universal use as separating and isolating media must, as far as the bacteriology of typhoid fever is concerned, be looked upon as unfortunate, since it not only placed an almost insuperable barrier in the way of recognizing typhoid colonies in the presence of those of colon bacilli, but at the same time brought into undue prominence practically the sole important characters which typhoid and colon bacilli have in common.

The similarity of colony characters and the occurrence of colon bacilli normally in the intestinal tract, and at times in various organs after death, so that typhoid and colon colonies often appear in company in the isolating media, have given rise to endless confusion in the bacteriology and interpretation of typhoid fever. Further than this, upon these points—the similarity of colony appearances and the identity of place of occurrence—have been largely based the idea of the close relationship and even interchangeability of these probably phylogenetically connected, though really very distinct and easily differentiated forms—a relationship which would undoubtedly have been long in suggesting itself had some other medium been at the command of those investi-

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gating the subject, or had the colon bacillus not been a regular dweller in the intestine.

The object of the present paper, therefore, is to pass in review the bacteriological investigations of typhoid fever which have been based on a fuller knowledge of the bacillus, and to see what bearing the results of these investigations may have on our interpretation of the disease process in man, and for what aid in diagnosis we may legitimately turn to bacteriology and what assistance hope for in determining rational hygienic measures for limiting the spread of the disease.

The history of the typhoid bacillus from the moment of its ingestion to its appearance in various regions and organs of the body still presents many gaps and on many points we cannot yet speak authoritatively, hence conclusions which may be drawn in this paper are in many instances tentative and are here simply set forth as the most probable in the light of present statistics and with the desire to focus attention upon and incite further investigation on mooted points.

A detailed résumé of the various investigations which have been carried on since Eberth's[1] discovery in 1880 of the typhoid bacillus in the tissues of those dead of typhoid fever, and Gaffky's[2] communication in 1884 in regard to the isolation of this bacillus in pure culture on artificial media, would be beyond the limits of this paper, but a few words on etiology may be of value, since the etiological relationship of this bacillus to the disease is in some of its phases particularly difficult of demonstration. This, as has been said, is especially true of animal experimentation, for although the typhoid bacillus and its products when introduced intravenously, subcutaneously, or intraperitoneally, do bring about the more or less rapid death of certain animals, still it has been observed that it is practically impossible by such means to induce the characteristic intestinal tissue reactions and lesions. Some observers even have held that a true infection, implying a multiplication of the organisms within the animal body, does not take place, and that the animals simply succumb to an acute intoxication due to the absorption of the already manufactured toxins and products introduced with the bacilli, and to the poisons liberated from the bodies of the bacilli, as they die and disintegrate within the inoculated animal.

It is generally true that death from such inoculations takes place in most animals within a limited number of hours, or not at all, and if a true infection does occur its rapidly fatal termination practically precludes the appearance of such characteristic and advanced pathological changes as those induced in man by the presence of this organism. Notwithstanding these facts, an infection giving rise to some of the more typical lesions, it seems, may at times be induced by the usual means or may be brought about with greater regularity by various methods which are used either to raise the virulence of the organism experimented with, or to reduce the insusceptibility and resistance of the animals inoculated. Sanarelli,[3] who has contributed to the knowledge of the action of this organism and its poisons on the animal economy and in regard to the distribution of bacilli within the animal body, considers that under proper conditions a true infection takes place and that the sites and character of the lesions induced, either by a true infection or the introduction of the products of the macerated organisms, are in many points peculiar to the infection or poisoning, and have a close similarity to those incited in man; close enough in fact to form a strong link in the proof of the etiological relationship of this bacillus to typhoid fever.

From time to time, cases have been reported of typical intestinal ulceration following inoculations of typhoid bacilli in animals, and lately Remlinger[4] seems to have had little difficulty not only in inducing these typical lesions in the intestines of rats and rabbits, but in bringing about infection by ingestion. Rare cases of infection by ingestion or by the intestinal tract have been reported, but special means have been used to destroy the action of the acid of the stomach, or to introduce the bacilli into the intestine. Ordinary feeding with infected food has heretofore proved ineffectual, and Remlinger's success not only in this line, but in the observation of typical lesions, is to say the least exceptional, and probably will be hesitatingly accepted unless further experimental confirmation is given it.

The demonstration of these rarer and more characteristic pathological lesions in animals, taken in connection with Pfeiffer's discovery of the action of special bactericidal substances—the so-called bacteriolytic or lysogenic substances—which develop in the blood of typhoid-fever patients and of animals undergoing immunization, and in connection with the recognition by various observers of other characteristic changes in the blood of typhoid patients and animals, changes supposedly due to the development of substances known as paralysins and agglutinins, which give rise to the phenomena now so familiar to us as constituting the Widal serum reaction, places the relation of the bacillus to the disease on a more scientific basis, although the constant presence of this organism in the organs of typhoid cadavers and its frequent isolation from the blood and spleen, as well as from the feces and urine of typhoid-fever patients during life, render these further proofs almost unnecessary.

The greatest and real obstacle, however, to a true appreciation and comprehension of the typhoid process in man, lay not so much in the question of the pathogenicity or non-pathogenicity of the typhoid bacillus for animals

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and the failure of the typical disease process to unfold itself in them, as in the difficulties encountered in the isolation and identification of the typhoid bacillus in the presence of other forms of bacteria. This, as has been previously suggested, and as we shall see in considering the question more closely, has given rise to various conceptions of the disease process and in regard to the localizations of the bacilli in the body.

Until about 1890, the characters of growth and the chemical reactions depended upon to differentiate typhoid bacilli from various members of the so-called colon group of bacilli were too few and ill defined for complete confidence to be placed in statistics based upon them. It was only with the application of methods bringing to light the more obscure physiological activities of the typhoid and colon bacilli—especially the results of their life processes in the presence of the various sugars, and the changes brought about in media containing pepton, *i.e.*, indol production—that statistics relating to the isolation of typhoid bacilli from various sources could be used with confidence. The confusion existing in regard to the typhoid and colon bacilli, which was primarily due to the close resemblance of their colonies on the ordinary isolating media, led, before the recognition of the colon bacillus by Escherich,[5] to the general belief that the typhoid bacillus occurred in great numbers in the intestinal contents, and to the conception of the disease as a more or less pure intoxication, in which the bacterial products were to a large extent manufactured by these organisms in the intestinal lumen, and from there absorbed, thus giving rise to the symptoms and lesion characteristic of typhoid fever, with a later local invasion of the lymphatic tissues and patches of Peyer by the bacilli. After Escherich's discovery and the consequent evolution of the more definite tests for the recognition of these bacilli in pure culture, it was found to be possible only rarely and with difficulty to isolate the typhoid organism from the intestinal contents. As an instance of this we may mention that, even as late as 1895, we find Wathelet[6] investigating stools by plating out in ordinary nutrient gelatin and recording very discouraging results, only ten colonies out of the six hundred tested proving to be those of typhoid bacilli. This experience is typical of that of many other investigators, who have interested themselves in the isolation of typhoid bacilli from intestinal contents and from the organs of those dead of typhoid fever. Such failures as these lent support to the opinion that the inciting organisms were not, at least as a rule, to be found in the feces, and to such statements as that of Silvestrini[7] that the tumefaction of the patches of Peyer ought not to be looked upon as due to a primitive localization of the virus, but as a local expression of a general process. Sanarelli,[8] like Silvestrini, laboring under this misconception in regard to the presence of the bacilli in the feces, believed the lesions to be due to the toxins formed at other places in the body by the bacilli, these bacilli thriving best in the lymphatic system and there producing toxins which besides causing phenomena common to many other poisons, induce lesions characteristic of typhoid fever; and further, he considered that in experimental typhoid fever and, as he thought, in the typhoid fever of man, the intestinal lesions were induced exclusively by toxins produced elsewhere in the system, and that this alleged fact took away all value from the old idea according to which typhoid fever should be considered as an infectious process of intestinal origin with localizations in the intestines.

The conclusions of these and other observers, reached in regard to the essentially general character of the typhoid infection, in contradistinction to an intestinal intoxication, or even an infection with its seat solely in the intestinal lymphatic tissues, should, as we shall see, be looked upon as substantially correct, although recent methods for isolating typhoid bacilli have enabled us to demonstrate that these investigators were distinctly wrong in supposing that typhoid bacilli occurred only rarely or not at all in the intestinal contents of typhoid fever patients.

How far the statistics at our command coincide with these views and are suggestive of the seats of election or rather existence of the organisms in the body will be briefly considered later under various headings.

The questions which will be taken up primarily are those relating to the possibility of isolating the bacillus from various situations during the disease, and the diagnostic value of such isolations to the clinician, and also the hygienic as well as clinical question of the usual time of appearance and disappearance of the organisms from the intestinal contents and urine.

In the various bacteriological studies of typhoid fever for diagnostic purposes attempts have been made during the life of patients to isolate the bacilli by spleen puncture and from the blood, rose-spots, sweat, urine, feces, and throat and mouth secretions and exudates. The principal results of these investigations it may be profitable to consider in some detail.

Spleen Puncture.—Typhoid bacilli have been frequently isolated from the spleen by puncture during life. The usual time of their first appearance in this organ cannot be determined from present statistics. That they are very constantly present in the spleen during some period of the disease does not admit of doubt. but whether they arrive there practically at the inception of the disease and whether the spleen then acts as a safe place of abode and

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multiplication have not been proven. Isolations from about the seventh or eighth day on do not seem to be uncommon.

The scientific evidence to be obtained of the distribution of typhoid bacilli throughout the system, especially of the usual time of arrival of the bacilli in the spleen, as well as the value of the results from a diagnostic standpoint, makes spleen puncture a very tempting procedure to the pathologist and bacteriologist as well as to the clinician, yet, as a means of diagnosis and investigation, it is not to be encouraged on account of the grave consequences to the patient which its employment sometimes entails.

Blood and Rose-Spots.—The earlier examinations of the blood and rose-spots of typhoid patients proved in the main unsatisfactory, though in spite of many failures, some of the investigations gave a certain proportion of positive results. In 1895, Thiemach[9] investigated seven cases with the recovery of the bacilli in four of them, three from the rose-spots and one from venous blood. In plates made from these blood specimens the number of colonies was very small, never more than two or three developing. With Besson[10] the drawn blood from nineteen cases gave no organisms and the result of the investigation of fifty-four rose-spots from nineteen patients showed fifty-three negative and only one positive result. Scottmüller[11] examined the blood from fifty patients, and obtained typhoid bacilli from forty of them. He made plates with about 4 c.c. of the blood mixed with agar. The colonies, by this method, were few in number and very tardy in development. Castellani[12] used large quantities of bouillon, which he inoculated with 10-40 drops of the blood to be examined. By doing this the blood was highly diluted and its germicidal action weakened. Fourteen cases were examined with twelve positive results. Auerbach and Unger, using practically the same technic, took blood asceptically from the median vein, and added 10, 20 and 30 drops to 300 c.c. of bouillon in Erlenmeyer flasks, which were then well shaken. They thus demonstrated bacilli in the blood of seven out of ten patients. Of the seven positive cases only one ran a severe course and terminated fatally. The remainder were either light or of medium severity. The bacilli were present in three cases on the twelfth day, in one on the sixteenth, and in one on the twenty-second. In two cases, during relapses with the development of rose-spots, they were found on the twenty-ninth and forty-second day respectively.

Neufeld[13], in 1899, believing that the failure of the investigations of rose-spots was due to the germicidal action of the blood accompanying the bacilli from the spots, instituted a procedure in which this blood was immediately diluted by its addition to nutrient broth. This method appeared to be eminently successful since he was enabled to cultivate the organisms from thirteen out of fourteen patients thus examined. Curschmann[14], subsequently following the same method, obtained the organism from fourteen out of twenty patients, and in none were more than two spots incised. Richardson[15], of Boston, with a slight modification of Neufeld's method, has been successful in the isolation of typhoid bacilli from five out of six patients. In his procedure, after a preliminary washing with alcohol and ether, the rose-spots are frozen by a spray of ethyl chloride. This not only makes the operation painless, but drives the blood out of the skin and away from the vicinity of the spot. A small incision is made over the spot and some of its contents curetted out with a very fine skin curette and transferred to a tube of nutrient broth, and finally the blood collecting as the effects of freezing wear off is transferred to broth.

These researches show that the organism may be obtained in this way as early as the seventh and eighth days, and apparently generally several days before the outspoken development of the substances in the blood which give rise to the Widal reaction. Unfortunately, for the general use of these procedures, five or six spots, it seems, should be examined in each case to insure success, and the curetting of spots is an operation which will undoubtedly be submitted to with much hesitation by the majority of patients.

Mouth and Throat.—Besson[16] has called attention to the examination of the products of inflammation from the throats and especially the tonsils of patients suffering with typhoid fever, and reports the recovery of typhoid bacilli from the tonsils of six out of ten cases investigated; he lays stress on a fact, most obvious from his results, that the expectoration of such patients may contain the specific organism and ought to be carefully disinfected. Comparatively little attention has been paid to the bacteriologic examination of mouth and throat secretions in typhoid, but such results make these investigations seem very advisable from both a diagnostic and hygienic standpoint.

Urine.—The examination of the urine of typhoid patients has heretofore given a greater number of positive results than the blood and the percentage of these results has not become lower as the methods used for the recognition of typhoid bacilli have grown more exact and refined. Neumann[17] discovered the bacilli in eleven out of forty-six cases and Karlinski[18] in twenty-one out of forty-four cases. Seitz, Konjajeff, and Silvestrini, also record positive results. In 1895, Wright and Semple[19] reported six positive cases out of seven. Besson, writing in 1897, analyzed thirty-three cases examined by him. All of his specimens of urine were carefully tested to determine the presence or absence of albumin and the proportion in which it occurred. The urine from nine patients did not show albumin, nor

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were typhoid bacilli isolated from these specimens. Twelve of the patients gave albumin in traces and always in amounts less than 1 gm. per 1,000 c.c. Among these latter only one gave a positive result. The urine from the remaining twelve patients contained albumin in large amount, 1 gm, or more per 1,000 c.c., and five of the cases showed typhoid bacilli. From his researches, Besson concluded that the bacillus of Eberth appears in the urine only when it contains albumin, and especially in quantities equal to or above 1 gm. per liter, and that the bacilli disappear from the urine at the same time that the albumin disappears. Karlinski also noted the relation existing between the occurrence of the bacilli and the presence of albumin.

The researches of Petruschky,[20] Richardson,[21] and Horton-Smith[22] indicate that the bacilli do not appear in the urine before about the fifteenth day of the disease or even later in the febrile period and at times not until convalescence is established. From the fifteenth day on, general statistics show that the bacilli may be isolated from about 25 per cent. of the cases. The organisms according to most observers may persist in the urine for days, weeks, and in rarer cases it has been claimed for months. Albumin is generally present in these urines, but, it seems, may in rare instances be absent; on the other hand, urine may contain albumin but no bacilli.

My own results present a fair agreement with these conclusions. Seventy-five supposedly true cases of typhoid fever* examined before the fourteenth day did not once yield typhoid bacilli in the urine.

Another special series of fifty-four patients (104 specimens of urine) examined in the later stages of the disease, from the twenty-second day to the tenth week, show the presence of the bacilli in seven.† In these fifty-four patients the temperature was reported to have reached normal and convalescence was established. The results of the examinations of the seven positive cases, being of special interest, are here recorded.

Case III.—Urine examined on the twenty-fourth and thirty-third day. Bacilli isolated from both specimens and albumin found to be present.

Case V.—Examined once in fifth week; bacilli present, also albumin.

Case XVI.—Examined once, on thirty-sixth day; albumin could not be determined.

Case XIX.—Reported as in the sixth week. October 13th, urine did not contain bacilli. Albumin ¼ gm. to 1,000 c.c. On October 18th, 19th, 25th, and November 1st, bacilli were present. Albumin had disappeared on November 1st and the bacilli were not found on November 7th, 14th, 16th, 22d, or December 1st.

Case XXXVII.—Bacilli were present in the urine, but no albumin, at time of the first examination, October 25th (fifth week). On November 4th, no albumin was present and no bacilli, and again on November 9th and 17th neither bacilli nor albumin could be demonstrated.

Case XLV.—Exact day not recorded, but case convalescent. November 19th, bacilli and albumin present; December 3d, no bacilli and no albumin.

Case LIV.—Seven and one-half weeks. Convalescent. Pus in urine, and organisms exceedingly numerous. Urine not further examined. Patient later developed periosteal abscesses.

The examination of these fifty-four patients seems to indicate that possibly twelve or more per cent. of cases in which the temperature has touched normal may be looked upon as containing typhoid bacilli in the urine, and the histories indicate strongly that the bacilli tend to disappear as the albumin vanishes. This vanishing with the albumin may be more frequent in post-febrile stages at which time the supply of bacilli from the general system to the kidneys and bladder has presumably ceased, and the bacilli not being supplied with suitable nutriment in the urine cease to multiply and are eliminated from the bladder.

The investigation of the urine, in the light of the foregoing conclusions, is seen to be of more value from the hygienic standpoint than from that of diagnosis. Except in persistently obscure cases when later examinations may be useful, the examination of the urine for purposes of diagnosis is apt to be futile, on account of the usual late appearance of the organisms in this excretion.

Feces.—As I have previously indicated, the problem of isolating the typhoid bacilli from the stools of typhoid patients had, up to the time of the introduction by Elsner[23] of his modification of Holz's acid-potato-medium,[24] remained to such an extent unsolved, that Nicolle[25] even went so far as to remark that not only in water, but also in the stools, and even in the parenchyma of the spleen, the presence of the bacterium coli constitutes an insurmountable obstacle to the isolation of the typhoid bacilli. Although this was hardly a fair statement of the case, yet taken in connection with such experiences as those of Wathelet, previously noted, it gives some idea of the difficulty of recognizing the colonies of bacillus typhosus in the usual gelatin plates, when these colonies are surrounded by those of the constant inhabitants of the digestive tract—the members of the colon group of bacilli. This is not the only difficulty attending the use of ordinary gelatin, for organisms at times occurring in the plates possess the power of liquefying the gelatin, before a typical development of the typhoid colonies can take place. By Elsner's method, in which a potato-extract gelatin medium plus 1 per cent. potassium iodide is used, these liquefying species are to a great extent ruled out, and in the majority of cases the colon bacilli and typhoid organisms alone develop. By this method the typhoid colonies according to most observers may be recognized in from forty-eight to seventy-

* Some of these cases may not have been typhoid-fever cases. Exact data could not be obtained in all instances.

† I am indebted to Dr. Edmund Le Roy Dow for valuable assistance in procuring many of these specimens, and for the albumin determinations.

two hours, being much smaller and lighter in color than those of the colon bacilli. This medium, not only in the hands of Elsner, but also when applied by Brieger, Lazarus, Chantemesse, and others in Europe, and by Richardson in this country, has given very satisfactory evidence of its usefulness. By this method of Elsner, Brieger[26] investigated the stools from eleven patients with typhoid during the various stages of the disease and claimed positive results in all the cases in the febrile stage. Examinations made just at the time of the disappearance of the fever and during convalescence gave uniformily negative results, with the exception of two cases in which a relapse occurred, and in one case complicated by venous thrombosis. Lazarus,[27] by Elsner's method, examined the feces of twenty-one patients, five in the febrile stage, and sixteen convalescent, free from fever for a longer or shorter time. In the febrile cases from the first to the third week he repeatedly found the bacilli. In cases convalescent, three days to six weeks, only three were shown to contain bacilli. One, it is thought, gave the bacilli on the forty-first day of convalescence. Chantemesse,[28] likewise, examined by the same method the stools of sixteen patients who were suffering from or had had typhoid fever. Three times the examination was negative; once in the case of a young patient three weeks convalescent, and with two others in the febrile stage. His other cases he claims gave positive results as early as the seventh and as late as the twenty-sixth day. Chantemesse considered the slowness of the development of the typhoid colonies a serious inconvenience in the method of Elsner, so valuable in other respects, and expressed the hope that a perfecting of the method would render it more available for purely clinical purposes.

In April, 1896, investigations were commenced by me on the behavior of various bacteria in semi-solid culture media. These media gave such promise of being useful in the differentiation of closely allied forms of bacteria that the study of bacillus typhosus and the various members of the colon group of bacilli was undertaken because of the interest and practical value connected with the differentiation of these organisms. These investigations are elsewhere recorded in detail (*Journal of Experimental Medicine*, 1897, Vol. II., No. 6, p. 677) so that I now only call attention to the composition of the media resulting from the experiments, and to the results of the practical application of the media to the isolation of the typhoid bacilli from the stools of typhoid patients. Two media are used—one for the differentiation of the colonies of typhoid bacilli from those of the colon group by plate culture, and one for the differentiation of these forms in pure culture in tubes.

The plating medium is composed of 10 gm. of agar; 25 gm. of gelatin; 5 gm. of sodium chloride; 5 gm. of Liebig's extract of beef; 10 gm. of glucose, and 1,000 c.c. of distilled water. The final titration of this medium should indicate the presence of 2 per cent. of normal acid,* phenolphthalein being the indicator, and the medium should be brought to this acidity by the addition of normal hydrochloric acid solution.

The growth of the typhoid bacilli in plates made from this medium gives rise to small light greenish colonies with irregular outgrowths and fringing threads. The colon colonies on the other hand are much larger, and, as a rule, are darker and do not form threads. This medium is practically solid and the differentiation seems to depend upon the fact that typhoid bacilli form threads in a medium of this acidity when pepton is absent.

The tube medium contains agar, 5 gm.; gelatin, 80 gm.; sodium chloride, 5 gm.; Liebig's extract of beef, 5 gm.; glucose, 10 gm.; distilled water, 1,000 c.c., and should react 1.5 per cent. acid, phenolphthalein being the indicator.

In this semi-solid medium the growth of the typhoid bacillus produces uniform turbidity, at 37° C. within eighteen hours. The colon cultures do not give the uniform clouding and present several appearances, dependent upon differences in the degree of their motility, and upon their power to produce gas in the medium.

The usual method of making the test is to take enough of the specimen of feces, *i.e.*, from one to several loopfuls, and transfer it to a tube containing broth, making the broth fairly cloudy. From this emulsion five or six plates are usually made by transferring one to five loopfuls of the emulsion to tubes containing the melted plate medium, and then pouring the contents of these tubes into Petri dishes. These dishes, after the medium has hardened, are placed in an incubator at 37° C. and allowed to remain for eighteen to twenty-four hours, when they are ready for examination. If typical colonies with fringing threads and outgrowths are found, the tube medium is inoculated from them and placed in the incubator at 37° C. for eighteen hours. If these tubes then present the characteristic clouding, our experience indicates that the diagnosis of typhoid may safely be made, *for the bacillus of typhoid alone, of all organisms occurring in feces investigated during these experiments, has displayed the power of giving rise both to colonies with fringing threads in the plating medium and the uniform clouding in the tube medium when exposed to a temperature of 37° C.*

A diagnosis may thus be made in from thirty-six to forty-eight hours. If doubt is entertained as to the distinctiveness or value of these characters, the bacilli may be further tested against a dilution of a known typhoid serum.

The organisms isolated in this manner have been subjected to the usual tests for the recognition of typhoid bacilli in pure culture, and have always corresponded in their reactions to those given by the typical bacillus typhosus.

By this method, since June, 1897, some three hundred and twenty-three cases, represented by

* Experience has shown that a final reaction of 1.8 per cent. acid is to be preferred, when attempting to isolate typhoid bacilli from feces.

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over four hundred stools, have been investigated. Many of these specimens sent by practitioners to the laboratory represented cases in which an early clinical diagnosis could not be made, and which cases were eventually diagnosticated as other affections. Of the three hundred and twenty-three cases, one hundred and eighteen may be considered positively as cases of typhoid fever. Typhoid bacilli were isolated from the stools of forty-five of these cases and their presence could not be determined in seventy-three cases. Among the seventy-three cases giving no typhoid bacilli are to be found ten convalescents, in the feces from which we would not expect to obtain the organisms, and which may therefore legitimately be subtracted in estimating the percentage in these cases. We have, then, practically a series of one hundred and eight cases represented by forty-five positive and sixty-three negative findings, or a positive percentage of nearly forty-two. This percentage must be considered very encouraging considering the unfavorable conditions under which some of this work was carried on.* It is worthy of note, in connection with what will be said later, that at least one-half of the negative results here recorded were represented by specimens of feces taken very early in the disease.

The most interesting results, and those which give a fairer idea of what may be hoped for in carefully investigated cases, were obtained in the examination of stools from typhoid-fever patients of the New York Hospital.†

This series consisted of twenty-six cases of typhoid fever, twenty-one in the febrile stage and five convalescent. Of the febrile cases nineteen were thoroughly investigated and in the feces of seventeen of these typhoid bacilli were demonstrated, and often in great number. Thus of these nineteen cases we find 89.5 per cent. giving positive results. In the other two cases of the febrile series the plates were not satisfactory, and only one specimen from each was examined, both of the patients dying very early; yet including these cases the statistics still show that over 80 per cent. of the febrile cases gave the typhoid organisms. The bacilli were isolated from these cases as early as the sixth day and as late as the thirtieth day, and in a case of suffering from relapse on the forty-seventh day of the disease and nineteenth day of the relapse.

The convalescent cases gave uniformly negative results, the earliest examination having been made on the third day after the disappearance of the fever. The bacilli occurred most regularly in the stools from about the tenth or twelfth day. This was especially well shown by one case examined every two days from the fourth day of the fever, no bacilli appearing until the twelfth day.

Among my cases there have been several in which no Widal reaction could be demonstrated but the feces contained typhoid bacilli and in one case the bacilli were found at the first trial on the tenth day of the disease, three examinations for the serum reaction having proved negative. In this case the specimen examined was not much more than a trace of the intestinal discharge, dried on a splinter of wood, this having been forwarded to me from a neighboring city. The colonies of typhoid bacilli developing in the plate were extremely numerous.*

The foregoing is a review of investigations and statistics from the more purely utilitarian standpoint of diagnosis, but we may now consider more particularly what these researches have brought to light in regard to the history and distribution of the bacilli in the human body, and in regard to their relation to the lesions of the disease.

Typhoid fever can no longer be looked upon, if in fact it really was ever so considered, as a simple toxemia, with the inciting organisms living, multiplying, and producing their toxins, solely in the lumen of the intestine during at least the major part of the disease, with a local invasion of the lymphatic tissues at the time of the appearance of the intestinal lesions, and a probable final general distribution of the invading organisms at the time of or just preceding death. It is now known that the bacilli are to be found in the blood, rose-spots, spleen and urine during the life of the patient, and this often at a fairly early day, and the growing tendency is to interpret the intestinal and other lesions rather as manifestations of the action of diffusible toxins and other products which are produced by the metabolism of the bacilli, or liberated from their degenerating and disintegrating bodies, within the body of the patient, and not of necessity absorbed from the lumen of the intestinal tract—that, in short, the infection is not comparable to cholera. From the standpoint of human pathology, in support of this

* The majority of these specimens were met with in public diagnosis work carried on at the Research Laboratory of the Department of Health of New York. It was, of course, impossible to supervise the collecting of material from the patients, and it must be borne in mind in considering these statistics that, besides disinfected specimens (which are left out of the calculation), many of the other specimens were in what seemed very bad condition when received, often having been delayed several days in transit. With the exercise of due care on the part of the nurse in collecting specimens, and the immediate forwarding of these to the place of examination, much more favorable results may be looked for by those seeking this aid in diagnosis.

† Thanks to the constant courtesy of Dr. Samuel W. Lambert, Visiting Physician to the Hospital, and of Dr. Adrian V. S. Lambert, House Physician, specimens were taken under the most favorable conditions and sent to the laboratory without delay. I wish here to express my appreciation of their kindness, and the interest they have shown in forwarding these investigations.

* These statistics were given in a paper entitled "Studies on the Isolation of Bacillus Typhosus as a Means of Diagnosis of Typhoid Fever," read before the Section on General Medicine, at the New York Academy of Medicine. This paper was not published, but a report of it appeared in the "Medical Record," December 11, 1897. The following conclusions were at that time drawn:

1. The presence of the "specific" bacilli in the blood, spleen, rose-spots, and urine, and this often early in the disease, indicates that the bacilli occur more generally distributed throughout the body than was at first supposed, and, if we are warranted in drawing any conclusions on this point, the bacilli after their ingestion, seem to invade the system and increase there, not reappearing in the contents of the intestinal tract in great numbers, until probably the time of the breaking down of the intestinal lesions.

2. The stools of typhoid patients have been shown, through the methods at our command, to contain the bacilli in a large percentage of the cases, and throughout nearly the entire febrile period.

3. The tendency is for the bacilli to disappear rapidly with the fall of the fever, and in cases in which they do persist, there seems to be an especial liability to relapse.

4. Finally, compared with the Widal test as a means of diagnosis, the recovery of the bacilli may be assumed to positively demonstrate the infection, while the serum reaction may be absent or may indicate a past or present infection, and when present is even then not always to be relied upon as "specific."

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view, it is to be noted that cases of typhoid fever in man are reported with no intestinal ulcers, and even without lesions, and the bacteriology of the feces also seem to indicate that these cases exist and are not extremely rare. The few cases of this description which have reached the autopsy-table also offer on their side an explanation of the absence of the bacilli from the feces of clinically typical cases, in which repeated examinations have been made and no bacilli found. That the presence of the bacilli in the lumen of the intestine is closely associated with the appearance of the lesions in the intestinal wall, and in all probability to a great extent dependent upon these lesions, rather than that the lesions are dependent upon the bacilli and their products in the lumen, seems to be indicated and borne out by statistics. In other words it appears probable that the lesions forms the chief source of supply of bacilli to the intestinal contents, the injured and necrotic tissues acting as a favorable place for multiplication.

In considering this question of the bacilli in the intestinal contents, we must remember that as yet we are ignorant of the mode and even of the exact place of entrance of the organisms into the system proper, *i.e.*, into the fluids and tissues of the body, although some part of the digestive tract may probably without error be looked upon as the usual site of the invasion. At what point of the digestive tract and how the bacilli gain entrance to the tissues is not known, but it may be granted that it is not at the same place and in the same manner in all cases, and this may account for the intestine showing a greater reaction in some cases than in others.

Whether a proliferation of the organisms in the intestinal contents in ordinary cases takes place previous to the true invasion of the system has never been determined; it would, however, seem to be otherwise, since a fairly consistent result of investigations is the failure to isolate the organisms from the feces during the first week of the fever.

Experiments *in vitro* bearing upon the behavior of typhoid bacilli in the presence of colon bacilli would also seem to support this contention, but unfortunately these results are not to be absolutely depended upon and in any case have not as direct a bearing upon the subject as may at first be supposed. It must not be forgotten that the feces are by no means of a definite composition and reaction, and the products of the metabolism of the various organisms found in them must of necessity vary in kind, strength, and effect on account of the variety of food furnished them and its initial reaction—for instance it is conceivable that typhoid and colon organisms could live together and multiply provided the percentage of acid produced could be kept below a certain point. Even if the body is not capable itself of bringing about this condition, an organism producing alkali in quantity by its life processes might be present and thus counteract the effect of acid production by other organisms. My own experience and that of others indicates that the duration of life of typhoid bacilli in feces outside of the body is a very varying one, and even the power to multiply under these conditions cannot be denied, although it does not seem to be the rule.

However this may acutally be, and notwithstanding the possibility of such a primary increase of the organisms in the lumen, still it does not seem logical to suppose that a pre-invasion multiplication is usual, and that the organisms then practically disappear from the feces just at a time when the body resistance is overcome, and actual infection permitted. Either a steady increase from the time of ingestion it seems will have to be postulated, or the bacilli looked upon as being derived from the lesions of the intestine. The latter view is supported by present statistics. A reiteration of the alleged fact that typhoid bacilli may be isolated with ease from the intestinal contents during the first and second week of the fever and that thereafter these organisms are not supplied to the feces, or are entirely overshadowed by the presence and action of the supposedly more virulent colon bacilli, is found in writings on this subject, especially in England. A careful consideration of statistics at our command leads us to other conclusions.

To bring out more strongly the result of investigations on this point, the course of the disease may be divided into three arbitrary periods: First to tenth day inclusive; eleventh to twentieth day inclusive; and twenty-first day to convalescence. An analysis of my series of cases hows the following:

First to tenth day inclusive, number of cases examined, 28; typhoid bacilli isolated, 3; typhoid bacilli not isolated, 25; percentage of positive cases, 10.7 per cent.

Eleventh to twentieth day inclusive, number of cases examined, 44; typhoid bacilli isolated, 22; typhoid bacilli not isolated, 22; percentage of positive cases, 50 per cent.

Twenty-first day to convalescence, number of cases examined, 16; typhoid bacilli isolated, 13; typhoid bacilli not isolated, 3; percentage of positive cases, 81.2 per cent.*

Considering these cases more in detail, we find: Of twenty-eight cases examined previous to the eleventh day of the disease, only three were found to contain typhoid bacilli in the feces, *i.e.*, 10.7 per cent. The earliest of these isolations I find reckoned as on the sixth day, but the history was indefinite and the day was probably later; the next earliest as on the ninth, and one as on the tenth day.

In the second period, eleventh to twentieth day inclusive, forty-four cases were examined and typhoid bacilli isolated from twenty-two, *i.e.*, from 50 per cent.; three on the eleventh day, five on the twelfth, two on the thirteenth, four on the fourteenth, two on the fifteenth, two on the seventeenth, one on the nineteenth, and one on the

* Urine may possibly have contaminated some of these specimens, but allowing the maximum urine isolation, 25 per cent., we still have 50 per cent. to be credited to the feces.

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twentieth. The larger number of positive results given on the eleventh, twelfth, and fourteenth days is due to the greater number of cases examined on these days. It is worthy of remark that four cases were examined on the tenth day, three being negative. Three on the eleventh day all positive, and five on the twelfth all positive. Two cases were examined on the thirteenth and typhoid bacilli were found; on the fourteenth five specimens gave the typhoid bacilli in four.

Sixteen cases were examined in the third period, twenty-first day to convalescence, and typhoid bacilli isolated from thirteen of them, *i.e.*, 81.2 per cent. Four of the positive findings occurred on the twenty-first day and the latest on the thirty-second.

Considering some of the foregoing cases individually, specimens from which were examined in the first and second periods, we find results consistent with the evidence given by grouping the outcome of examinations of feces from various cases. Thus:

Case XIX., bacilli present on sixth day, also on twelfth.

Case XXII., no bacilli present on tenth day; present on twelfth.

Case XXIII., no bacilli present on fourth, sixth, eighth, tenth; present on twelfth.

Case LXI., no bacilli present seventh and tenth; present twentieth and twenty-second.

Our technical methods being under good control, and giving positive results from other feces at the same time that the examinations of the above specimens were made, it is not likely that typhoid bacilli occurring in four consecutive specimens, such as those from Case XXIII., which were most carefully collected, could have escaped detection and isolation, even granting that they were present in especially small numbers.

These statistics seem to be borne out by those of other observers. Karlinski[29] could not detect the bacilli before the ninth day, and his twenty-one cases gave two on the ninth day, two on the tenth, two on the twelfth, nine on the fourteenth, two on the seventeenth, and three on the twenty-first.

Wiltschour[30] could not determine their presence before the tenth day, and Redtenbacher[31] in his review of statistics sums up by saying that in the majority of cases the bacilli first appear toward the end of the second week. Horton-Smith's[32] cases show the bacilli absent or not detected on the eighth, thirteenth, and ninth, while the same cases gave the bacilli on the eleventh, seventeenth, and fourteenth, when the second examination was made. Richardson[33] notes a positive result on the fifth day, but considers that the disease was probably further advanced. In fact the majority of envestigators do not even claim positive findings before the seventh or eight day, and the vast majority of isolations occur from the eleventh or twelfth day on. On the other hand, Rémy,[34] one of the latest workers on this subject, claims isolations as early as the third, fourth, fifth, sixth, ninth, tenth, etc., days, but declares, however, that it is difficult to determine the beginning of the disease, and that for ease of comparison he has always counted the day of the disease from the time when the patient took to bed. His positive results should therefore be reckoned as possibly occurring on days much later than the day indicated in his table. Rémy also attempted to estimate the number of colonies in plates to determine the relative proportion of the bacilli at various stages of the disease. His results seem to indicate that the bacilli, few in the early days of the disease, increase in numbers up to the second week (tenth day or later?) and then progressively diminish.

The conclusion which seems forced upon us by the results obtained in my own investigations and by those of others is that the bacilli do not occur in the feces, in numbers at least sufficient for recognition, much before the middle of the second week, or, in other words, about the time the intestinal lesions are well advanced and ulceration is occurring, and in the light of our present statistics on the subject (which may of course be modified by subsequent research) it seems most rational to look upon the presence of the organisms in the feces, especially in fair numbers, as indicating an ulcerating condition of the intestine, and that the organisms practically appear and disappear with these lesions—few when the lesions commence to break down, they increase as this process advances and commence to decrease as the ulcers begin to granulate and heal.

It must unhestitating be admitted, as noted previously, that there may be a period immediately following the ingestion of the bacilli during which it might be possible to isolate the organism from the intestinal contents, and it must not be overlooked that any condition giving rise to a serous discharge into the lumen might possibly bring about the presence of the organisms there before ulceration, even if infection had not had its immediate seat in the intestine; still as far as we have been able to determine, the organisms are absent during the early days of the disease, and do not appear in force until the time of severe intestinal involvement and ulceration.

Another hypothesis which may be offered in solution of this problem is that the organisms are continuously present in the lumen of the intestine from the day of ingestion, but, while overcoming the natural resistance of the body and while adapting themselves to a new environment, are unable to actually increase their numbers to any great extent, and are hence in such small force as to be detected with great infrequency. As the adaptation of the bacilli to their environment becomes more perfect and the resistance of the invaded organism is gradually overcome, conditions adverse to the bacilli are for a time overborne and they steadily increase and may then be detected with less and less difficulty. Although such may be the case, and undoubtedly these factors are to be reckoned with, this hypothesis, at present, does not seem to coincide with all the facts, such for instance as that of the apparent

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continued absence of the bacilli from the stools of cases of the fever, which give all other clinical symptoms and tests, and which would probably be found to have little or no intestinal involvement or slight or few ulcers.

The gall-bladder, as is known, may contain the bacilli at some period of the disease, and must not be forgotten as a possible source of supply of the organisms to the intestinal contents. The bacilli from this source would, probably, under ordinary circumstances, appear not earlier than the second week, and whether they would survive to be discharged from the body has certainly as yet not been determined.

To what extent the presence and multiplication of the bacilli in the gall-bladder may affect the intestinal flora, we have no ready means of determining, and the problem must be solved by careful observation and analysis of intestinal and gall-bladder contents of cases dying without intestinal lesions or after the healing of these lesions. What these examinations will show cannot be foretold, but nevertheless it may be taken as generally true that the organisms of the disease tend to appear in the feces at a time corresponding to the breaking-down of the intestinal lesions, and to disappear gradually as those lesions granulate and heal, and finally generally vanish before the temperature reaches normal. We probably therefore have a fair index to the state of the intestine at any given time or in any given case in the occurrence and number of typhoid bacilli in the feces, although this may to some extent be influenced by the struggle going on among the intestinal organisms, or in the later stages by bacilli derived from the gall-bladder.

If we have interpreted our statistics correctly, as to the usual source of supply of typhoid bacilli to the feces, then the organisms must be present in the hyperplastic intestinal lesions, *i.e.*, the tumefied agminated and single follicles, and it is from these, at least during the height of the disease, that the bacilli are largely supplied to the intestinal contents, and I venture to conjecture that a marked tumefaction and ulceration of these structures in man do not occur unless the bacilli are present in them, that is, that they are not to any great extent dependent upon toxins, carried to these parts from a distance in the system, or absorbed from the intestinal lumen. This I am aware does not agree with some of the present conceptions of typhoid fever, which conceptions may be principally attributed to unsatisfactory technic and the results of animal experiments such as those reported by Sanarelli, who asserted that the presence of the bacilli of Eberth was in no wise necessary to the very characteristic and complex phenomena which develop in the intestine, and that the bacilli can act from afar in virtue of their poisons, while they themselves remain localized by preference in the serous membranes, as among the animals, or in the spleen, as in man. This may be perfectly true when lethal doses of the bacilli or their toxins are administered to animals, but we cannot argue from this that it is necessarily true of the infection as it occurs in man, in whose case the primary dose of poison or bacilli is probably never very large, and the general poisoning often slight, the disease unfolding itself slowly.

It is well known that certain cells and tissues show a peculiar susceptibility to the action of certain poisons, while other cells and tissues remain unaffected or less affected in the presence of the same poisons. It is also true that the anatomical position of various cells, especially their proximity to the blood and lymph streams, renders them more liable to injury than cells not so situated when poisonous substances are present in the circulating fluids. Other cells, there is little doubt, may be especially exposed to toxic influnces because they themselves, or the tissues of which they form part have some particuar function of secretion, elimination or absorption. From these premises it may be logically argued that not only the less characteristic degenerations and lesions of a disease, but even focal and more pathognomonic lesions may be brought about by the simple presence of bacterial products in the fluids of the body. Experimentation has shown this in some instances to be the case. It does not necesssarily follow, however, that all the lesions which characterize a given infection can be brought about by the simple introduction or absorption of the toxins of the disease. In an infection such as typhoid fever, it is probable that the localization of the bacilli is necessary to the development of certain lesions; that besides the products, which by their presence in the blood and lymph streams give rise to some of the lesions, there are other substances only present or sufficiently concentrated in the immediate vicinity of the bacilli, which give rise to other lesions characteristic of the disease.

Because the morphological examinations of tissue sections, to determine the relation of the bacilli to the lesions of typhoid fever, have in most instances proved unsatisfactory, and have given inconstant results, it has been too readily concluded that any or all the lesions can be developed completely independent of the immediate presence of the bacilli. Our present knowledge hardly warrants such a conclusion, and it may be well to keep in mind that it is from the tissues in which the principal lesions occur that the bacilli can be isolated with great regularity.

The intestinal tract being the usual portal of entry, the lymphatic tissue of the intestine is without doubt often the earliest seat of the organism within the tissues, and the peculiar and characteristic lesions induced in it are probably dependent upon the immediate presence of the bacilli and certain products thereby concentrated. These products, it has been shown, not only give rise to degeneration, but may incite the endothelial cells to reproduction or act chemotactically and attract the cells of the system which aggregate and lead to the tumefaction which may eventually result in necrosis and the formation of ulcers.

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After invasion of the tissues, wherever the point of entry may be, the bacilli probably commence operations in the least resistant lymphatic tissue to which they may be borne, and there in the course of growth and death give rise to their various poisons, and gradually spread to fresh regions through the agency of the blood and lymph, and especially so as the primary systemic resistance is overcome. If for some unusual reason the tissues of the intestine are particularly resistant, the lesions induced in them may be slight, or, if we can depend upon the cases reported, entirely absent. This absence of lesions may, on the other hand, indicate that the bacilli have gained entrance to the system by a channel other than that usually suspected, and the bacilli not have reached the intestinal structures.

The appearance of the bacilli in the spleen, bone marrow, mesenteric glands, blood, rose-spots, and urine, is dependent upon the secondary dissemination of the bacilli by the blood and lymph channels. The blood seems to be a very unfavorable medium for the organisms, and to exert a strong germicidal action on those bacilli which are not rapidly carried to a more favorable place of abode. The continued presence of the bacilli in the spleen is probably to a great extent dependent upon the large quantity of blood passing through this organ and the deposit there of the organisms borne by it. We do not know whether the spleen is a particularly favorable place for the organisms and usually acts as a focus of multiplication or not. The immediate presence of the bacilli and their probable degeneration in the spleen possibly indicates the principal cause of the characteristic enlargement of this organ.

The recent work of Neufeld[35] on the isolation of the bacilli from the rose-spots, and especially that of Fraenkel[36] on the demonstration by special technic of the organisms in excised spots, indicate not only that the bacilli are spread throughout the system by the blood, but that these lesions are also dependent upon the immediate presence and probably upon the degeneration of the bacilli and are hyperplastic in character. The bone-marrow reactions are possibly of the same character and due to the same causes. This would also seem to support the contention that besides the greater abundance at the points of localization of the bacilli of the diffusible poisons which give rise to the more general inflammations and cell degenerations, especially parenchymatous, throughout the system, there are less soluble products, probably derived from the disintegrating bodies of the bacilli, in all tissues where the bacilli find a place of lodgment or safe abode and multiplication, and that at these points true hyperplastic lesions or chemotactic phenomena are induced, which lead to the characteristic tumefactions and at certain points, as in the intestine, to the subsequent degenerations and ulcerations which are almost pathognomonic of the disease. The association of the bacilli with post-typhoid suppurations lends support to this view.

The fact that the urine frequently contains the bacilli is good indirect evidence of the presence of the bacilli in the blood at some period of the disease. This is the most likely channel by which they reach the kidneys, and through the kidneys in various ways they pass into the urine from the circulation. Conditions giving rise to transient toxic inflammations and to albuminuria may bring about changes favorable for the passage of the bacilli, or in some instances the severer focal lesions which have been described in the kidneys, and which are undoubtedly due to the localization of the bacilli may be the forerunners of the appearance of these organisms in the urine.

Before turning to the hygienic aspect of our subject let us sum up briefly the present status of the bacteriology of typhoid fever, and in so doing call especial attention to those points in the history of the bacilli within the body upon which we are particularly ignorant.

In the first place we do not know the mode or exact portals of entry of the bacilli into the tissues and fluids of the body. The usual site of invasion is, however, in all probability in the lower portion of the small intestine, where involvement most frequently occurs. Some other portion of the gastro-intestinal tract may at times be the site of the primary localization, and the lungs as portals of entry cannot with certainty be ruled out. We do not know whether, after the ingestion of the bacilli, they steadily increase in the lumen of the intestine, there producing their toxins, and by these causing intestinal disturbances and inflammations, and by their absorption systemic symptoms; or whether, when in the lumen, they are unable to increase, but gain entrance in some manner into the lymphatic tissues, and there by toxin production and multiplication give rise to typical infection and lesions.

We do know, however, that it is certainly not usual to be able to isolate typhoid bacilli from the intestinal contents during the first week of the disease, but that this can be done with much regularity toward the middle of the second week. These results point to the lesions and symptoms as being principally due to the invasion of the tissues by the bacilli.

We know, also, that the organisms can be isolated from the rose-spots, which ordinarily appear during the second week; and that they can be isolated from the spleen, and this probably quite as early as the appearance of the rose-spots; and also that they frequently appear in the urine at the end of the second week, and are generally associated with albuminuria.

And, finally, we have seen that they can be isolated from the circulating blood, which fact indicates the most likely channel by which they have reached the spleen, rose-spots, and urine.

After death, the bacilli have been found in connection with lesions in various locations, especially in the mesenteric glands, liver, and bone marrow. The first indicating a direct spread by the lymphatics, and the probable passage of the organisms into the general circulation by the

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thoracic duct; the lesions in the liver, a spreading by the portal circulation, and the bone-marrow, like the spleen, rose-spots, and kidneys, again indicating their dissemination during life by means of the general circulation.

Notwithstanding, then, the gaps in our knowledge, we are now in a position to say definitely that no matter what the actual condition is during the first week of the fever—whether the chief symptoms are due to toxin absorption from the intestinal contents, or, as seems more likely, are due to a true infection well established at that time, that by the second week a true tissue infection is established, and the bacilli are scattered, living, and probably multiplying in various situations in the body, which situations they have reached through the agency of the lymphatic and blood streams.

The blood, as has been stated, does not seem to be a favorable fluid for the life of the bacilli, and only in the rarest instances is it at all likely that they multiply in it, but some simply survive long enough in it to reach more favorable places of abode.

Typhoid fever, then, although it cannot be looked upon as a true septicemia, holds an intermediate place between the purer intoxications such as diphtheria, cholera, and tetanus, and those truer types of blood infection in which a growth and multiplication of the infecting bacteria take place in the blood, and which more truly deserve the name of septicemia or bacteriemia.

Hygienic Considerations.

During the past few years bacteriology has contributed much to our knowledge of the occurrence of typhoid bacilli in the excretions and secretions of typhoid-fever patients, and a due appreciation of these results should give a sound foundation for hygienic procedures for the limitation of this too prevalent disease.

Mouth and throat secretions and exudations may be carriers of the specific organisms, which fact warns us of the extreme care that should be exercised in regard to sterilization and disinfection of all utensils used by the patient for eating or the taking of medicine, as well as the destruction of all food in contact with which such eating utensils have come. It is no uncommon occurrence for food, especially dainties, to be shared by patients and the family, the patient in many cases having first eaten from the dish which is subsequently passed around.

The feces, being very generally considered the carriers of the organisms, have been disinfected with some regularity where the diagnosis of typhoid fever has been made. Fortunately, as far as we know, the organisms do not appear in the stools, at least in great numbers, before the patients have taken to their beds, and in most cases have, as far as we can determine, entirely disappeared at the setting in of convalescence. The stools, then, are a source of infection generally during a period when their disinfection can be easily accomplished and only ignorance or carelessness on the part of the attendants is likely to cause the deposit of a non-disinfected evacuation where it may become a menace to the community at large.

Such a statement cannot be made in regard to the urine. Here, the organisms, as in the feces, are generally absent in the early stage of the disease, but may appear later, or even during convalescence, and persist in the urine indefinitely, and often in astonishing numbers. It is not, at least, the general practice to make a special point of disinfecting the urine, even during the febrile period, or to determine the presence or absence of the typhoid bacilli in the urine of patients convalescent or sufficiently recoveryed to be discharged from hospitals, or in private practice ordered away to recuperate. Such invalids only too frequently resort to some outlying district where the lack of modern sanitary arrangements permits the ready contamination of the water supply and the establishment of a new focus for the dissemination of typhoid fever. Further, the great danger from the unavoidable soiling of the clothes in such cases is too apparent almost to be mentioned, and the infecting of the hands is certainly of frequent occurrence.

The danger from infection by means of the urine is to be strongly emphasized, and undoubtedly many lives and days of illness might be saved if this fact were more generally realized and acted upon.

No patient should be discharged from a hospital before an examination of the urine for the infecting organisms has been made, and, if these are present, an attempt made to eliminate them; or at least the patient warned of his condition and instructed in the care of himself and his fellows. In all cases, in fact, both in hospital work and in private practice the routine disinfection of the urine should be instituted, and before its discontinuance the urine should be determined free from the bacilli of typhoid. Certain facts and procedures may be considered in this connection.

Albumin furnishes food material for the bacilli, if it is present in the urine, and when the organisms gain access to the bladder they often increase enormously; conditions giving rise to albuminuria are probably also conducive to the passage of the organisms from the system through the kidneys to the urine, hence cases showing albumin are especially liable to contain the bacilli; cases in which albumin is absent cannot be considered as always free from organisms, but my experience has been that the bacilli do not tend to linger in such urines.

In districts remote from laboratories, a hanging drop or stained cover-glass preparation of fresh centrifugalized urine might be examined; if rod-shaped organisms are present, these should be looked upon as typhoid bacilli and the urine as infectious until their disappearance. Where possible, a definite diagnosis by means of culture tests should be made. Certainly this problem should be considered very seriously and

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is scarcely less important than that of diphtheria, in the case of which routine bacterial exterminations have been established and the freedom of patients restricted. Every precaution should be taken to eliminate the possibility of immediate infection from such cases, as well as the dissemination of the specific organism in communities less well protected sanitarily than our own, and which constantly supply us with many of our cases of typhoid. It is probably only through such precautions that the prevailing death-rate from typhoid fever will be greatly lowered, since we cannot hope to enforce universal purification of water, which we wilfully or ignorantly allow to be contaminated.

General Conclusions.

1. During the course of typhoid fever, usually after the first week, typhoid bacilli can frequently be obtained from the blood, spleen, rose-spots, urine, and feces, and in rarer instances, it is claimed, from the secretions or exudations of the mouth, throat, and lungs. After death the bacilli have been demonstrated in these and other locations and lesions, such as the lymphatic tissues of the intestine, the mesenteric glands, bone-marrow, lungs, liver, gall-bladder, kidneys, etc.

2. The bacilli, as far as can be determined from various observations, do not thrive or even survive long in the circulating blood. They are, however, able to live and multiply at some, at least, of the points at which they are deposited by the blood and lymph, thus forming bacterial foci within the tissues.

3. Morphological examinations of tissue sections to determine the relation of the bacilli to the lesions of typhoid fever have in most instances proved unsatisfactory and have given inconstant results. Some of the lesions, without doubt, occur at points remote from the bacilli. On the other hand, it is probable that the bacilli are intimately associated with many of the lesions, since wherever the bacilli, after gaining access to the tissues and fluids of the body, find lodgment and establish foci, after gaining access to the tissues and fluids of the body, the various products of bacterial metabolism and degeneration are thus concentrated and doubtless give rise to lesions at these points. Moreover, it is not unlikely that certain lesions occur only at points of localization of the bacilli.

4. Typhoid fever, therefore, is an infectious disease, in which a wide dissemination and multiple localizations of the bacilli are frequently demonstrable both during life and after death. During the course of the disease, various tissue changes take place, some necrotic, others hyperplastic. Some of these lesions are at points remote from the inciting organisms; certain facts, however, point strongly to a close association of the bacilli with some of the more characteristic lesions, especially those of the lymphatic tissues.

5. There is a close connection, in time at least, between the appearance in, and disappearance from the intestinal contents, of the typhoid bacilli and the appearance and repair of the intestinal ulcers. The organisms are only very rarely demonstrable in the stools before the first days of the second week and disappear with the fall of the fever. During the period at which intestinal tissue destruction is most active they can be isolated with great regularity. When continuously absent in typical cases, this may be looked upon as indicating a probable scarcity or absence of intestinal lesions.

6. The urine in a certain percentage of cases contains the bacilli, though not often before the end of the second week. The organisms may not appear until very late in the disease or during convalescence. They may persist for days, weeks, and it has been claimed for months, and are generally associated with albuminuria.

Hygienic Conclusions.

1. The urine of typhoid fever patients should always be disinfected. From a hygienic standpoint bacteriological examination of the urine of patients convalescing from typhoid fever is important and should never be omitted before patients are allowed to go at large, so that proper precautions may be taken to guard against the dissemination of typhoid bacilli by the urine. This is an often neglected source of infection that should be seriously considered in the hygiene of typhoid fever.

2. Feces, of course, should be disinfected at all stages of the disease, but the organisms being present generally only from the beginning of the second week to the fall of the fever and the patient during this period usually being confined to bed, the feces are not such a source of infection to the community at large as the urine.

3. The bacilli may on account of the lung and throat lesions be present in the mouth of those suffering from typhoid fever, hence the expectoration should be disinfected, as well as all eating utensils, etc., used by the patients.

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RESTORATION OF USEFUL VISION IN A COMPLICATED CASE OF ACUTE INFLAMMATORY GLAUCOMA OF TEN DAYS' DURATION WITH VISUAL ACUITY REDUCED TO THE PERCEPTION OF LIGHT.[1]

BY C. A. VEASEY, M.D.,
OF PHILADELPHIA.

ON the third day of April, 1897, I was asked to see in consultation R. T., an unmarried woman aged forty-two years, who was suffering from a very severe attack of inflammation of the eyes of nine days' duration. The attack, which had been preceded by transient paroxysms of foggy vision lasting for an hour or two, as well as by a halo of colors around artificial lights, was typical of acute inflammatory glaucoma coming on during the night and for the first twenty-four hours producing intense pain. After this time, however, during the whole course of the disease, the pain was scarcely noticeable. Beyond the employment of a boric and zinc lotion nothing had been done for the condition which at the time of my first examination was as follows:

The right eye was intensely injected, the cornea hazy and anesthetic, the anterior chamber shallow, the aqueous turbid, the pupil widely dilated and immobile and the lens quite hazy. No view of the fundus could be obtained. Tension equaled + 3 and vision equaled the perception of light, and according to the statement of the patient the latter had been so since the onset of the attack. The light field was considerably contracted on the nasal side.

In the left eye similar conditions were present with the addition of a yellowish degenerated iris and a cataractous lens. The vision was totally abolished.

The history elicited at the time of this examination showed that a similar attack had occurred six years before, but affecting the left eye only, and that in spite of continued medicinal treatment by an oculist the vision was ultimately lost.

With one eye blind and the other possessing only light perception, in a patient with an attack of acute inflammatory glaucoma of nine days' duration, it was realized that no time was to be lost if any vision was to be restored. Leeches, hot fomentations and repeated instillations of eserine not having made any impression upon the eye by the following day, an upward iridectomy was performed under ether anesthesia, the anterior chamber being so shallow that a Graefe knife was employed instead of a keratome. Beyond a smart hemorrhage at the time of cutting the iris, no complication was encountered. The tension was at once restored to normal, the anterior chamber quickly reformed, the eye became much more quiet, the visual field became larger, persons moving around the room were detected and recognized, but it was noted that the lens was quite opaque and considerably swollen.

The condition continued *in statu quo* for two months, the patient being able to count fingers at one meter, when she came to see me one day with the eye even more markedly inflamed than when I first saw her. The lens was enormously swollen, the anterior chamber shallow, the iris inflamed and attached to the anterior capsule, tension equaled + 2 and vision was again reduced to the perception of light.

The conditions, therefore, were now those of a secondary glaucoma brought about by the swelling of the lens and the accompanying iritis, and the only chance to restore any of the vision seemed to be in the immediate removal of the lens matter. Under ether anesthesia, through a three-millimeter flap made in the sclera instead of in the limbus so that the advantages of a sclerotomy might be obtained, most of the lens substance was extracted. The upper portion of the capsule was so tough that it had to be removed with forceps. Notwithstanding the severe inflammatory conditions that were present at the time of the operation, the healing was not unusually prolonged and at the end of a month the patient was tested for glasses and was found to possess $^{5}/_{40}$ vision.

She was now seen once a month for six months, the eye continuing well and quiet when she passed from observation to reappear a year later with the pupil almost entirely closed and the eye presenting the appearance that one sees after chronic iridocyclitis following cataract extraction. She admitted having had two or three attacks of inflammation in the eye in the interim, but had thought nothing of them as they did not seem to disturb her vision very much. Now that the latter was distinctly bad again she had come for advice. The eye was absolutely quiet and vision equaled the counting of fingers at twelve inches.

A small iridocystectomy was now made down and out, the iris being withdrawn with some difficulty with a blunt hook. An opening about 2½ millimeters in diameter was obtained which, after the healing was complete, with the correcting glass enabled the patient to have a visual acuity of $^{5}/_{60}$. The pupil remained open and the vision continued as long as the patient was under observation, which was six months from the time of the performance of the operation; but as to the exact present condition the writer is unable to state from personal observation though he has been indirectly informed that the visual acuity is still maintained and that there have been no further inflammatory attacks.

The case seems to the writer to possess several points of interest the chief of which is the restoration of vision after it had been lost for

[1] Read before the Section on Ophthalmology of the College of Physicians of Philadelphia, December 18, 1900.

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ten days and notwithstanding the fact that it was necessary to perform the second operation during the height of a severe inflammatory attack involving the anterior portion of the uvea.

RUPTURE OF THE RIGHT KIDNEY: NEPHRECTOMY: RECOVERY.

BY G. R. TROWBRIDGE, A.M., M.D.,
OF BUFFALO, N. Y.;
ATTENDING SURGEON TO FITCH HOSPITAL; SURGEON TO LEHIGH VALLEY R. R. CO

RUPTURE of the kidney being a comparatively rare occurrence, I report the following case on this account, and because of the apparently hopeless prognosis and the surprisingly excellent result. All authorities agree that this accident to a kidney is serious and one which demands rapid interference.

The cause of ruptured kidney is external violence applied over the region of the organ, usually when the individual is in a stooping posture. The position, I believe, has a very great deal of influence on the result of a blow in this locality, for when a person is stooping all structures both superficial and deep, are put upon the stretch, offering less resistance and protection to the underlying kidney than does the erect position.

The signs and symptoms are agreed upon by all authorities, and in the main are as follows. A history of violence over the organ; hemorrhage *per* urethra; a sense of fulness about the kidney, often discoverable by palpation; pain extending into the groin and testicle of the same side; weak pulse; pallor of mucous surfaces and the skin, and signs of collapse. All these signs vary with the extent of the injury, although I do not think signs and symptoms should always be taken as an indication of the extent of the rupture. The hemorrhage may be severe, the blood clotting in the bladder and blocking the urethra, or it may be so slow, that in the absence of an exploratory operation the surgeon is misled, and sepsis and peritonitis result from a too-long-delayed operation.

The hemorrhage from the urethra might be confounded with that from an injured mucous surface of the bladder, but, taken with other signs and symptoms, should not be difficult of differentiation. Often the hemorrhage might be severe and still not show externally, due to the clot formation in the bladder, and this condition itself might necessitate a cystotomy for its relief.

W. W. Keen[1] reports five cases of primary nephrectomy with one death, a mortality of 20 per cent., and thirteen cases of secondary nephrectomy with five deaths, a mortality of 38.5 per cent., showing the primary operation to be the preferable one of the two. As to route, he recommends the lumbar operation.

Ernest Laplace[2] makes the following statement: "The dangers of rupture of the kidney are mainly hemorrhage and sepsis. When, therefore, the symptoms are such as to indicate marked hemorrhage or sepsis, and especially if a tumor form quickly in the lumbar region, an exploratory operation should at once be done. If severe laceration be present or the kidney's functions be practically compromised, or the hemorrhage be such as to require ligation of the renal vessels, lumbar nephrectomy should immediately be performed, primary nephrectomy being safer than secondary removal of the organ."

On the other hand, Tuffier[3] reports five cases of traumatism of the kidney, all recovering, operation in one case only. He believes that operative interference should be exceptional and only resorted to when there is hematuria.

In answer to this I can only reiterate my statement that a severe hemorrhage may occur without being visible, and therefore the hematuria cannot be taken in all cases as a reliable sign, either for or against the extent of injury.

Fig. 1. Ruptured Right Kidney.

Henry Morris[4] says: "There is great danger in delaying operation in these cases, the decomposition of the clots and the cystitis which is excited by their presence, as well as the frequent catheterization needed, expose the patient to all the dangers of suppuration of the wounded kidney and also to the risk of infection.

The following case, I think, presents the prominent signs and symptoms of severe trauma of the kidney and shows what may be accomplished by an immediate nephrectomy.

Michael S., Pole, aged forty-three years, weight 150 to 160 pounds, height, 5 feet 8 inches; laborer. On April 24, 1900, was struck by a coal-car going rapidly down a grade in the tunnel of the coal-trestle of the Lehigh Valley R. R. This tunnel is cut through solid lime-

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stone and the walls are consequently unresisting. Whether he was struck in the back by the car itself and thrown against the side of the tunnel, or whether he struck his back against the wall of rock, I was unable to ascertain and he was not positive about it himself. He was brought five miles to Buffalo on a locomotive and taken to the Fitch Hospital. Immediately on his admission he expressed a desire to urinate and passed nearly one and a half pints of bloody urine. This was before I reached the hospital. After my arrival (about twenty minutes after his admission) he passed an amount of bright arterial blood equal to three pints. Pulse was weak and very rapid. Patient complained of soreness and fulness over right kidney, the latter being evident by palpation. The mucous surfaces and also the entire skin were pale and anemic. Intravenous injections of normal salt solution and hypodermic stimulation were at once employed, together with hot-air baths. As it was the first case of the

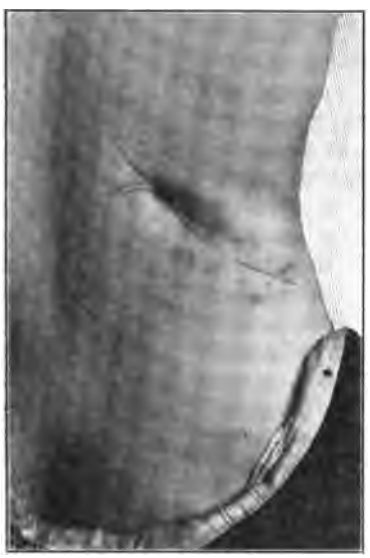

Fig. 2. The Resultant Scar.

kind I had ever seen I called in Dr. E. J. Meyer of the hospital staff to verify my diagnosis. This he did and immediate operation was decided upon.

The man was quickly prepared and a lumbar nephrectomy performed. The hemorrhage was very severe and for a few moments the result looked extremely doubtful. Normal salt solution and hypodermics were again resorted to, with good results. I found the kidney torn about three quarters through and in its removal the rupture was completed, the organ being removed in two pieces. Several ligatures were applied to the vessels, the wound cleansed and closed throughout two-thirds of its extent, the remaining third being packed with iodoform gauze.

The left kidney assumed its double duty without trouble and the patient made an uninterrupted recovery. The after-treatment consisted of sweating, injections of normal salt solution and hypodermic stimulation, together with considerable quantities of drinking water. At the present time the man is again doing his work as formerly and is in perfect physical condition.

The kidney was somewhat larger than normal and quite friable.

The accompanying illustrations give a good idea of the extent of the damage and the resultant scar.

The conclusion I draw from my experience in this case is this: In cases of trauma of the kidney, do an exploratory operation, for by this means alone is it possible to learn the extent of the injury.

For the photographs in this case I am indebted to Mr. N. B. Ludlum, Assistant to Superintendent Van Allen of the Lehigh Valley R. R. Co.

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MEDICAL PROGRESS.

Radical Cure of Abdominal Hernia.—Dr. SALISTSCHEFF (*Centralbl. f. Chir.*, No. 13, 1901) states that he has succeeded in making actively contractile firmly united muscle-flaps for the closing of old abdominal hernia at the site of operations or wounds. In one of his described cases an obstinate hernia followed a wide stab wound through the left rectus abdominis in its upper half. Freely opening the sheath of the muscle above and below the locus of the hernia and thus exposing the cut ends of the muscle, he constructed an upper and a lower rectangular muscle-flap respectively out of the upper and lower stumps of the divided muscle. These he turned up and down, approximating their cut edges over the exit of the hernia, closed by the usual methods and there sutured them. Primary union and subsequent observation of the case showed that the result was most satisfactory. In another patient the hernia was in the right inguinal region along the border of the right rectus. In this case the muscle-flap was cut from the rectus so that it could be swung on the pubic attachment at a point outward across the hernial opening, where it was sutured to the freshened edges of the latter. This flap also lived to be contractile and fully adequate for curing the rupture. The other steps in these operations were the same as for closing any hernia wound. His patients have been under observation for many months and the results seem to be permanent.

Medical Hebetude.—An absolute lack of surgical-obstetrical sense is clearly shown to the startled reader in J. MCELROY'S recent report of a case (*British Med. Jour.*, Apr. 6, 1901). Mrs. F., aged thirty-seven, multipara, six months pregnant, had felt no movement for three weeks. In examination the child was pronounced *dead*.

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Two days later she was comatose; stertorous breathing, frothing at the mouth, pupils dilated and fixed. Urine loaded with albumin. Jalap, bromide and chloral ordered. Frequent convulsions. Calomel, jalap and ginger prescribed. Violent delirium. *Seven* days from the onset of this eclampsia a "macerated" fetus was passed!

Does Typhoid Immunize?—In a series of reports of cases from the Cape and from India, of soldiers and orderlies of whom he had very complete histories, B. NICOL (*Lancet*, Apr. 6, 1901) gives his reasons for believing that such immunity does not exist. In these cases a second attack occurred within a few months of the first, and in some instances, a third. In all, Widal's test was distinctly present but a short time prior to the secondary attack. This seems to him to cast a doubt on the value of the test for determining the presence of immunizing substances in the blood. That immunity exists, he has no doubt; it is not, however, brought to light by Widal's test, nor is it the result of a previous attack. It is a purely individual characteristic which unfortunately for those who might otherwise be guarded from infection, there is as yet no means of determining.

Skiagraphy and Calculi.—C. L. LEONARD (*Annals of Surgery*, April, 1901) after an analysis of the results of skiagraphic examination of 136 cases of actual and suspected cases of renal calculi and the discovery among them of seventeen renal and nineteen ureteral stones, draws the following conclusions: (1) Skiagraphy furnishes accurate and valuable negative and positive diagnosis; (2) ureteral calculi are more common than has been supposed, perhaps as much as 50 per cent. of all cases; (3) equally accurate diagnosis of calculi is impossible by all the other means; (4) this method is comprehensive, aids operative intervention by locating the calculi and by excluding the opposite kidney; (5) non-operative treatment in the absence of a negative X-ray diagnosis is irrational and dangerous in all suspicious cases; (6) this method has precision and mechanical exactness in its favor, but, in order to avoid error, accuracy in technic and care in interpreting results are needed; (7) the diagnosis by this method of small calculi low down in the ureters, which may be expected to pass, make a non-operative treatment rational; (8) negative diagnosis does not preclude exploratory nephrotomy, but does render unnecessary actual incision into the kidney in search for calculi; (9) dilatation of the ureters in the male may be practised with the aid of a suprapubic cystotomy for guiding the sounds from the urethra to the ureter. It will be as serviceable in the male as in female, without the cystotomy.

Gastric Insufflation.—R. OEHLER (*Semaine Médicale*, No. 12, 1901) states that although percussion of the stomach unaided is a valuable diagnostic means, it is very uncertain unless combined with a distention of that viscus with air, either through the medium of some effervescent mixture internally administered, or of the stomach-tube through which air is pumped at once into the organ, or of a large tube passed partly down the esophagus and used the same as the gastric siphon. All these procedures have objections for the practitioner and patient alike. A simple, rapid means of insufflating the stomach he has found to be the Pollitzer bag. The patient is placed in the dorsal decubitus position and the tip of the bag is passed into one nostril while the other is occluded. While the patient swallows water he is compelled by the bag to swallow air also. A few repetitions of the act are enough to dilate the stomach in most individuals.

THERAPEUTIC HINTS.

Hemoptysis.—If the bleeding is moderate in amount, LEMOINE (*Le Nord Médicale*, Apr. 1, 1901) advises a hot foot-bath, and purgation with:

℞ Sennæ, Sod. sulphat., } aa.....gm. 15.0 (℥ss)

Aq. bullient. ad.....c.c. 500.0 (Oi)

Or if the bleeding is subsiding use simply magnesium sulphate. For continuous small bleedings a good prescription is:

Quinine sulphat....gm. 0.30 (gr. v)
Ergot pulv..... 0.50 (gr. viij)

in capsule, every morning. In sudden large hemorrhages, omit the foot-bath and envelop the legs in iodized cotton and bathe the hands in hot water to open up the peripheral vessels. Perchloride of iron is useless, and ergot not very good, but ergotole may be given hypodermically. Perfect rest, control of cough, and avoidance of food are necessary for a time.

Melancholia.—M. ALLEN STARR believes it better to keep a melancholic asleep than to attempt to relieve his distress by diversion or anything which demands a mental effort which he cannot make. Severe cases require absolute quiet and rest in bed, and precautions should be taken against sudden impulses to suicide. The treatment of light cases without delusions consists in increasing nutrition by frequent feeding, milk punches, tonics, stimulants, laxatives, and aids to digestion, and the forcing of fluids, especially milk and beef extracts. Glycerophosphates, intestinal antiseptics, warm baths, alternating hot and cold douches, massage, out-of-door exercises without fatigue, vasodilators and cardiac stimulants, all have their value. Insomnia must be combated by hypnotics, which must be changed from night to night. Opium is constipating and should be used only when there is distress, but it does not cause the habit and is specific in relieving the mental symptoms. Quiet may be obtained in a country place or sanitarium, not in a city.

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SATURDAY, MAY 11, 1901.

NEW YORK'S OPPORTUNITY.

As the far away rumbles of thunder are but precursors of a coming storm so the periodic signs of discontent regarding the care and treatment of the insane as now attempted, should presage some radical departures in the near future.

The taxpayer is unquestionably paying too much money for the results obtained in the care and treatment of its insane, and New York State, as a thrifty community, should heed the advice recently put forth in the Report of the State Charities Aid Association to the State Commissioners in Lunacy.

It takes up one phase of the problem, already dwelt upon in the MEDICAL NEWS in December last and more recently in a paper on "Charity and at Less Cost," that is, that more money could be spent on the acute insane and less on those incapable of being helped.

This report says: "Insanity is not necessarily a disease confined to the brain, as is commonly supposed. The brain and the central nervous system are so intimately connected with every tissue and organ in the body that disease or disorders outside of the nervous system may be causes of insanity. Thus, mental symptoms may result from the defective assimilation of food, from impaired circulation, from malnutrition and from numberless other morbid conditions. In the nature of the case, these causes are as obscure as they are numerous. To isolate them, to recognize them, to determine their mode of action, is the most important object in the study of mental diseases to-day. For experience has shown that treatment directed toward causes is the only rational method of combating disease. The investigations which such work implies can only be carried on by the most industrious and skilful workers, and should be conducted by the ablest of our alienists and neurologists.

"Why should not the insane have the benefit of the best medical skill our country affords, and which is now so freely given gratuitously by the most distinguished members of the profession to patients suffering from other diseases in other hospitals of every city of this State?

"The plan we would advocate is the erection, in several of our largest cities, of comparatively small Reception Hospitals, or Psychopathic Hospitals, as branches of existing State Hospitals and governed by the same boards of managers. These hospitals, designed for the reception and temporary treatment of insane patients, should be organized on the same general plan as are the New York, Presbyterian, St. Luke's, St. Vincent's, Roosevelt, and Mount Sinai Hospitals of this city, and other well managed hospitals elsewhere. Cases possibly curable would doubtless be kept for a limited period in the reception hospital under the daily care and constant advice of the most eminent members of the profession, until it was thought best to send them on to the main hospital.

"It is also desirable that the reception hospital should open its doors for clinical teaching. It is in the cities that are centered the medical schools which send out year after year graduates who know but little of mental diseases, because they have not had the proper facilities for studying them. Many of these young doctors begin their practice with very slight knowledge of a group of diseases which they will inevitably during their professional career be called upon to treat. It is also under the roof of the New York Reception or Psychological Hospital that the already established Pathological Institute would naturally find its home."

As for the chronic insane they should be sent to the country where agricultural colonies could

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be formed which under efficient, non-political management, could be made almost, if not quite, self-supporting.

Small psychopathic hospitals in large cities for the acute and curable insane, and large agricultural colonies in the country for the chronic insane is the answer to one phase of the question, How best to take care of our insane?

THE AMBULANCE SURGEON AND YELLOW JOURNALISM.

THE average newspaper writer never succeeds so well in producing a comedy as when he attempts a tragedy, and the sublime height of journalistic comedy is reached in reports of medical affairs. A good story bears telling twice and an element of fiction merely increases its interest. The ambulance surgeon furnishes the foundation in many cases and upon some simple occurrence the yellow journals erect a melodrama. And every month or two they repeat the tale.

Their latest fabrication concerned the death from cerebral hemorrhage of a woman at the New York Hospital, after what was claimed to be an incompetent and insulting diagnosis of the ambulance surgeon who left the patient, but was subsequently obliged to remove her from the police precinct to the Hospital. It was shown that the policeman on duty and the matron at the station house, both obviously persons whose medical opinion must be of great weight, differed as to diagnosis from the surgeon, of whom it was even insinuated that he was young. The usual dialogues were well written and showed a wealth of inventive genius, but of course failed to agree in the various papers.

The foundation of fact was that the woman, when seen by the surgeon, refused to be taken to the Hospital and wished to go to her home in a cab. When asked by the police for a diagnosis to satisfy the red-tape of the precinct blotter, contusion of the wrist and alcoholism was given, the most probable according to the doctrine of chances. The woman was later removed by the police to the precinct's station and subsequently became worse. When again summoned the surgeon at once took the patient to the Hospital.

As is well known by many, the New York Hospital regards the affairs of a patient in the light of professional confidence as would a private physician, and in this sets an example which might well be followed by others less reticent. For this reason the house staff are not allowed to make any statements for publication, and the official replies to inquisitive reporters are marked by a characteristic brevity which requires elaboration by their recipients before they will satisfy the readers of a yellow journal. To one who knows the number of grains of salt with which these journalistic fictions founded upon fact must be taken, such malicious slander of a surgeon at first excites indignation. A man while simply doing his duty is accused of being the cause of the death of a woman who had declined his aid, and various brutal remarks are credited to him, while his name adorns any convenient cut in the paper's stock.

But why should the episode be regarded seriously by any one? Of course the reporters must live and although at times they employ means beneath contempt, as in this instance, their ludicrous exaggerations add to the gaiety of life. Mark Twain, who cabled in reference to an announcement of his death that the reports in regard to the state of his health were much exaggerated, understood the reporter's nature thoroughly. Unvarnished facts are not marketable. Furthermore, since it requires a hospital training to demonstrate to a physician that a differential diagnosis between various forms of coma and their prodromata cannot be made, in some cases, with much more accuracy than characterizes a newspaper report, why should one of these writers of daily fiction be supposed to realize this fact? And what right has a hospital to refuse to discuss the affairs of patients when a reporter wishes to know them?

FOOD AND DIETETICS.*

HORACE WALPOLE said of somebody that he never made a bad figure but as an author. How fittingly this saying applies to many medical men of note who have taken up their pens in the attempt to communicate the results of their experience is unfortunately only too apparent when one comes to read critically what they have written. In spite of the assiduous endeavors of certain philanthropic medical editors to guide the literary aspirant through the mazes of syntax and authography; in spite of the constant appearance of such estimable examples of the doctor's *vade mecum* as "Polysyllabics Plainly Presented" and "How to Write Though a Physician," the number of really successful medical authors—

*Food and Dietetics. By Robert Hutchison, M.D., Edin., M.R.C.P. New York: Wm. Wood & Co., 1901.

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from a literary standpoint at least—is minimal. When, therefore, we come across a book like "Food and Dietetics" and find it fascinating both in matter and manner from start to finish, we cannot refrain from commenting editorially on our find. The author of this really "notable book of the season," Dr. Robert Hutchison of London, is deserving of the highest enconiums as a medical man for presenting to the profession what we consider to be the most noteworthy treatment of a most important subject, which has appeared in a long time, and we offer him our heartiest congratulations as an author for having succeeded in confiding his ideas to paper in a style eminently perspicuous and entertaining. We learn from the preface that the contents of this book were first addressed to the students of the London Hospital in the form of a course of lectures, a fact which impels us to extend to those students our congratulations upon their good fortune.

It is self-evident that no man can be a really good physician who does not know the nutritive constituents and relative values of foods. Such knowledge constitutes in large measure the basis of therapeutics. And yet how many doctors there are who, grossly indifferent to the immense importance of the diet in sickness, content themselves with the mere drug treatment of cases, while they leave the selection of the fuel by which the fires of life are to be kept burning to the discretion of parents or nurse.

It does not take the really wise physician many years to discover the paucity of specifics in his medical armamentarium. Arrived at this degree of sapiency, he expends his efforts in instilling into the minds of those intrusted to his care the great lessons of preventive medicine, and paramount among these the necessity of fortifying the body against the inroads of disease by means of properly selected foods.

To the many who are themselves in need of the knowledge in regard to food and dietetics, which will enable them to deal most satisfactorily with their patients, we recommend Dr. Hutchison's book. In it they will find traditional errors annihilated, cherished delusions dispelled, and in their places solid, well-substantiated facts.

We feel, under the circumstances, that to reproduce some of the very many interesting things of the book would be too much like picking out "gems" from Shakespeare and so refrain. We feel safe in saying, however, that its perusal will satisfy the most critical. Even with regard to such commonplace articles of diet as butter, milk and eggs, the author is able to tell us a great deal that is eminently practical and useful in our daily handling of the sick.

Of particular interest is what he has to say on vegetarianism, alcohol and the cooking of food.

ECHOES AND NEWS.

NEW YORK.

Hospital Opening.—The New York State Hospital for the care of Crippled and Deformed Children located at Tarrytown, N. Y., will be opened Friday, May 17, 1901. Bishop H. C. Potter will preside. Drs. R. F. Weir, A. A. Smith, and W. M. Polk will deliver short addresses.

Columbia University Appointments.—Dr. L. Emmett Holt has been appointed Clinical Professor of Pediatrics; Drs. Evan Evans, D. Bovaird, E. Solley and N. B. Potter, tutors in Medicine. It is announced that Dr. F. Peterson has been appointed Clinical Lecturer of Psychiatry.

East Side Doctors' Club.—Physicians on the East Side below Fourteenth street have formed the East Side Physicians' Club, with headquarters at 165 Henry Street. The membership is 175.

Cornell Medical College Library.—President Schurman has announced that negotiations carried on through the university library officers have succeeded in securing for the Loomis Laboratory of the Medical College the complete pathological library of the late Dr. Felix Victor Birch-Hirschfeld, who was Professor of Pathology and Pathological Anatomy in the University of Leipsic, and Director of the Leipsic Pathological Institute.

Woman's Hospital College Addition.—The trustees of the New York Medical College and Hospital for Women have now sufficient funds on hand to proceed with the erection of the new hospital building to adjoin the present site in West One Hundred and First Street, and the contract will be let in a few days.

New York Academy of Medicine.—A stated meeting will be held on Thursday evening, May 16th. Dr. Stephen Smith will deliver a memorial address on the late Dr. S. S. Purple, formerly President of the Academy. The following papers are announced: "Sitophobia of Enteric Origin and Syphilis of the Liver," by Dr. Max Einhorn; "The Intestinal Intoxication Occurring in Mucous Colitis in Young Children," by Dr. Henry Koplik. Discussions by Drs. Jacobi, Chapin, Northrup, Southworth and others.

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Manhattan Dermatological Society.—A regular monthly meeting was held on Friday evening, May 3rd, at the residence of Dr. A. Bleiman, 206 East 48th Street. Dr. Wm. S. Gottheil was in the chair. Dr. R. Abrahams presented a woman with pityriasis versicolor limited to the palms. Such cases were rare, only one other, that of Gottheil being recorded. Microscopical examination of the scales by Dr. Gottheil showed the presence of the *microsporon furfur*. At present the palms showed a superficial scaliness, although before the patient had washed so frequently that there were light and dark yellow patches of various sizes and shapes. Dr. Gottheil remarked that the clinical picture was not as characteristic as in his case, but that the microscopical appearances were classical. Drs. Bleiman and Weiss thought that from present appearances a diagnosis of tellositas or eczema would be more likely. The microscope however settles the diagnosis. Dr. J. Sobel advised the application of Lugol's solution in order to bring into prominence pale and imperceptible lesions (Allen's test). Dr. E. L. Cocks showed two cases of prurigo in native-born children of eight and nine years respectively. Both gave a preurticarial history and presented a papular eruption on the extensors, enlarged glands, and a nutmeg-grater feeling. Dr. R. Abrahams considers both chronic urticaria. Pilocarpine acts well in these cases. Dr. J. Sobel fails to find the picture of prurigo in either case. The papules lack the firmness of prurigo, the characteristic buboes are not present and he cannot detect the feeling of a nutmeg-grater. Both, to his mind, are chronic papular urticaria. Dr. L. Weiss would call both cases lichen urticatus or chronic lichen simplex. The patients lack the anemic, haggard look and the buboes of prurigo. Dr. Obendorfer says neither case looks like prurigo. He misses the great infiltration of the skin, the firmness of the individual lesions and the adenopathy. He would call them chronic papular eczema. Dr. Gottheil remarked that he inclines toward a diagnosis of prurigo. The picture is characteristic neither of prurigo nor papular urticaria. Dr. L. Weiss presented a patient with *eczema neuroticum vegetans* of the lower extremities. There were patches with somewhat healed centers, the individual lesions consisting of small papules simulating lichen planus. Dr. E. L. Cocks considers it lichen planus plus eczema. Dr. Obendorfer calls it eczema. Dr. Bleiman thinks it primarily pruritus senilis. Dr. J. Sobel would call it mycotic eczema on account of the more or less sharply-defined edges, the somewhat circular form, the healed centers and the persistency. Formalin and chrysarobin act well. Dr. R. Abrahams calls it parasitic eczema. Strong nitrate of silver solutions (50 per cent.) and carbolic acid are recommended. Dr. Kinch thinks it an eczema. Dr. Gottheil stated that the papules are typically those of eczema. Dr. L. Weiss showed a woman with *rosacea* of the cheeks. Stretching of the skin enables one to see the capillary circulation. Dr. Geyser advised treatment with the negative galvanic needle inserted at right-angles into the vessels. Dr. Bleiman presented a case of favus of the nails. The scalp showed evidences of favus. Dr. Oberndorfer showed a probable *acne varioliformis* of the scalp, with numerous bald spots. Dr. R. Abrahams would diagnose acne vulgaris and folliculitis. Dr. E. S. Cocks sees no acne varioliformis. Dr. J. Sobel finds acne pustulosa and folliculitis abscedens. Dr. L. Weiss states that the bald regions speak for folliculitis decalvans. Dr. Ochs presented a patient with resolving syphilis. Dr. Bleiman presented a pityriasis rosea resembling seborrheal eczema and demonstrated the continuous treatment of scabies with Wilkinson's ointment.

The Late Dr. F. J. Brockway.—At a recent meeting of the West End Medical Society the following minute was adopted: "The members of the West End Medical Society desire to express their sorrow at the death of their fellow-member and former President, Dr. Fred J. Brockway. This is to be taken not merely as a formal record of the feeling of the Society as a body, but as the expression of a genuine sense of loss on the part of each individual member.

"While the death of our colleague makes us regret the loss to the profession of his solid abilities as a practitioner and teacher, on the other hand, his sterling qualities as a man and friend, his absolute reliability, his sound common sense and last, but not least, his fund of quiet humor, all constitute a claim to the personal regard of each member of the Society such as to call forth that regard in its highest form. The Society wishes Dr. Brockway's family to know of the great esteem it had for him and it hereby expresses to them its deepest and most heartfelt sympathy.

"*Resolved*, That the above minute be entered in full on the records of the Society and that a copy be sent to the family of our deceased colleague.

"BERN B. GALLAUDET, M.D., JAMES E. NEWCOMB, M.D., Committee."

PHILADELPHIA.

General Anesthesia in Heart Disease.—The May meeting of the College of Physicians was devoted to the discussion of the relation of diseases of the heart to surgical operations, especially to the use of general anesthesia. Dr. W. J. Mayo, of Rochester, Minn., spoke of preëxistent heart disease in reference to surgical operations. Dr. Mayo said that the reverse power of the heart must be taken into consideration in all cases. He has found this to be greater in old age than in infancy. Valvular lesions in persons between the ages of ten and forty are usually well compensated and anesthetics generally cause little risk. Later in life myocardial change is usually associated with valvular lesions, many of the sudden and unexpected deaths occurring soon after operation being due to such change. A

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knowledge by the surgeon and anesthetizer of the presence of cardiac lesion is a great safeguard against danger.

The Safest Anesthetic to Use in Organic Disease of the Heart and Vessels.—Dr. H. A. Hare spoke on this topic, saying that the majority of accidents in these cases were due to the shock of operation instead of the anesthetic. The condition of many such subjects improves under an anesthetic. The ordinary clinician and surgeon does not pay enough attention to the vessels, being satisfied with examining the heart. The cardiovascular tone and blood-pressure are all-important questions. Ether, although the safest anesthetic we have, is contra-indicated in some cases of high arterial tension. American surgeons do not often enough employ atropine for its effect on secretions. Oxygen and an anesthetic should never be given by allowing the gas to bubble through the anesthetic. An increase or decrease of oxygen means the same effect on the anesthetic. Each should be given alone. General anesthesia is better than local or spinal anesthesia in valvular or myocardial disease. Dr. Hare believes that anesthesia by intraspinal injection will soon be a medical curiosity.

The Cardiac Complications Which May Arise During Operation.—This paper was read by Dr. J. M. T. Finney of Baltimore. He finds that the so-called heart cases bear ether well. Fatalities occur more frequently under inexperienced anesthetizers. Heart disease of itself does not contra-indicate the use of ether. Chloroform is especially dangerous in cases of myocardial change. The contra-indications to ether are respiratory rather than cardiac. Anesthesia is dangerous when the hemoglobin is under 30 per cent. Dr. Finney has studied 150 cases of heart disease and the effect of anesthetics upon them. The only appreciable bad effects were in cases of myocardial change. He has the anesthetizer keep a chart of each case, showing the pulse frequency each five minutes.

Cardiac Complications Which May Arise After Operation.—Dr. Alfred Stengel spoke on this topic. Inferences regarding this question should be drawn from simple examinations under anesthesia or from minor operations. In gynecological cases the heart should be studied before and after the operation. Myocardial disease is common in cases of myoma of the uterus. Terminal pneumonias ascribed to aspiration or irritation are often due to failing circulation and the anesthetic is only the exciting cause. Pulmonary embolism is more frequent after gynecological operations.

CHICAGO.

Woman's Medical College.—At the annual meeting, held April 24th, Dr. Eliza H. Root was recommended for Dean of the College during the absence of Dr. Marie J. Mergler, who is away on a sick leave. Dr. John Ridlon was elected Secretary of the Faculty.

Sentence of a Midwife.—A midwife was found guilty of murder and sentenced to fourteen years in the penitentiary. The offense was the common one of criminal abortion. The patient died.

St. Luke's Hospital.—This institution is a beneficiary under the will of the late Mrs. Jennie L. Young, to the extent of $5,000.

The Kerr Bill.—This bill, which required all manufacturers of patent medicines to print the formulæ of their productions on the bottle or wrapper, and also to designate whether the medicines contained any harmful drugs, was defeated in the Senate.

Cook County Hospital Investigation.—The Committee, which has been investigating the charges of general bad management, neglect and cruelty at the Cook County Hospital, has submitted its report, and finds the charges not sustained. Many of the charges were built up on the most flimsy pretexts. These were carefully probed by the jurors, who gave several days of their time to this work alone. The report makes several recommendations for the benefit of the Institution, particularly with regard to the heating and ventilating systems, and praises the work of the nurses whom it terms a body of "faithful, conscientious and able women." The investigation into the working conditions, however, brought the jury to the conclusion that the nurses are much overworked, and the following comment was made on this point: "It would seem that such increase as is possible in the staff of nurses would greatly relieve the faithful women now doing this work, and would also result in more comfort to the sick, insuring to them many small attentions which are now impossible." Attention is called to the fact that the food served to patients had been condemned by several witnesses, but the report states that an examination of the supplies at the hospital showed them to be good and wholesome. Most of the complaints are ascribed to poor service and lack of variety. A tribute is paid to the internes, who are described as "bright young physicians, who have won their positions by competitive examination." After paying this compliment, the report continues: "Although most of the evidence heard would indicate that the internes are entirely subordinate to the attending physicians, we think that their desire for knowledge and experience in many cases outweighs their regard for hospital rule and for conservatism in the treatment of patients." The remedy suggested for this is the appointment of a house physician to supervise the medical part of the hospital work, if the three schools of medicine could agree on a capable man. A decrease in the number of doctors on the attending staff and the formation of a more perfect organization are also urged. The excellent operating-rooms and management of clinics are warmly praised in the report, and the management of the hospital is congratulated on the state of perfection to which these details have been brought. Finally, the report states: "While

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we have ventured to criticize much in the condition and management of the hospital under the present *régime*, we think that the main shortcomings of all our county institutions are due largely, if not wholly, to the pernicious influence of politics and politicians in municipal affairs."

Chicago Medical Society.—At a clinical meeting, held May 1st, Dr. John B. Murphy exhibited a patient upon whom he had performed an abdominal colopexy for prolapse of the rectum. He also reported cases of lymphosarcoma of the mesentery, excision of the intestine for malignant disease, and Pott's disease. Dr. E. Wyllys Andrews reported cases of gastrostomy, umbilical hernia, strangulated scrotal hernia, tendon suturing, nephrectomy for malignant disease, renal calculi, tetanus, cerebellar tumor, and laparotomy for perforation of the intestine in a case of typhoid fever. Dr. Wm. E. Morgan exhibited a case of goiter complicated by stenosis of the trachea. Dr. George W. Webster showed two cases of weak heart and, after giving briefly the histories of the cases and the physical findings, he discussed the etiology and prognosis in cases of weak heart.

Chicago Pediatric Society.—At a meeting, held May 2nd, the following officers were elected: President, Dr. W. S. Christopher; Vice-President, Dr. J. W. Vanderslice; Secretary and Treasurer, Dr. Emma M. Moore; Trustee, life member, Dr. John C. Cook; Trustee, short term, Dr. D. W. Rogers, and Trustee, three years, Dr. Alfred C. Cotton.

Pathology of Ulcer of the Stomach.—Dr. William A. Evans discussed the pathological anatomy and histology of ulcers of the stomach. As to location, the seats of ulceration are the lesser curvature, the posterior surface, and near the pylorus. Occasionally the duodenum and the esophagus are the seat. The analysis of 7,700 autopsies by Stawell would indicate that ulcer of the stomach is about as frequent in men as in women. Gluzinski says the majority of the ulcers occur in the men. The usually accepted figures are about twenty times as often in women as in men. Greenough and Joslin, as a result of a study of the cases in the Massachusetts General Hospital from 1888 to 1898, conclude that it is four times as frequent in men as in women. Saundby says it is twenty times as frequent in women as in men. Hyperacidity and ulcer of the stomach are generally associated. The speaker's opinion is that the hyperacidity results from the continued irritation of the ulcer, and not the ulcer from the hyperacidity. In many cases of marked hyperacidity in a young woman, ulcer as an etiological factor is to be borne in mind. In ulcer of the duodenum no hyperacidity of the gastric juice can be demonstrated as a general proposition.

Among the other etiological factors recognized are embolus and thrombus. The anatomical arrangement of the celiac axis and of the gastric artery would make embolus infrequent. Besides, embolus is not common in people presenting the clinical picture manifested by a case of ulcer of the stomach. Thrombus can frequently be demonstrated.

That there is a relation to chlorosis is beyond question. Again, there is the difficulty of deciding which is the primary lesion. On the one hand, the loss of blood and, perhaps more important still, the direct absorption through the ulcer of incomplete digestion products can produce chlorosis. Usually the degree of anemia bears some relation to the loss of blood. On the other hand, women with ulcer of the stomach usually give a history of anemia preceding the ulcer. The same is not true of men. The ulcer does not repair until the anemia is lessened according to Fütterer. This might be true, and the chlorosis be only a contributing factor. Hemmeter and Stokes have collected 21 cases of syphilitic ulcer in the literature up to 1900. As to the relation of ulcer to carcinoma, Fütturer holds that carcinoma develops right in the ulcer as a result of physical injury. It develops on the side of impact.

Treatment of Ulcer of the Stomach.—Dr. James B. Herrick read this paper. He said that many of these ulcers heal spontaneously. The conditions that tend to keep up the process are the general chlorotic state, the local circulatory condition, but above all, the irritation from food which excites peristalsis and vomiting and causes an outflow of the hyperacid gastric juices. Theoretically, the best results should be obtained from the treatment securing most nearly perfect rest of the stomach, including freedom from peristalsis, from movements of the viscus, and attending movements of the body. Experience shows it to be true, that the more nearly these ideal conditions are met the better the result. Drug treatment is unsatisfactory. Treatment by light or milk diet gives better results. The results of Leube and others who employ his method are by far the best. Leube puts his patients to bed, applies hot applications over the epigastrium, and gives a minimum amount of carefully-selected food with occasional drugs to correct hyperacidity. Absolute rest in bed of from two to six weeks was advocated. Nothing should be allowed by the mouth, not even water, for from three days to three weeks. Nourishing enemas should be given at regular intervals; a cleansing enema of water given every morning; gradual substitution of liquid by the mouth for the enemata could be allowed when the pain, tenderness and vomiting had entirely ceased. It was better in all cases, if possible, to keep the patient on rectal feeding for at least one week. Light diet should be continued many weeks after the patient had left the bed. Attention should be given to the anemia preferably by the administration of iron. The results of the treatment were almost immediate disappearance of the nausea, vomit-

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ing, and pain, and a rapid lessening of the tenderness on pressure. Hunger, thirst and sleeplessness were scarcely complained of after the first twenty-four hours. Emaciation and weakness rapidly disappeared when the feeding by the mouth was begun. In recent cases of ulcer a cure could be quite confidently predicted. In older cases of months or years standing there was generally an improvement, occasionally a cure. Certain cases were clearly surgical, chiefly those with alarming severe hemorrhage, or repeated small hemorrhages, not disappearing under rest and rectal alimentation; also cases of perforation, with peritonitis; cases complicated with adhesions, perigastritis, dilatation, etc., and cases with obstinate vomiting, or severe pain that resist the treatment by alimentation. Believing that other methods of treatment were unsatisfactory and that this method by breast and rectal feeding offered the most favorable conditions for the natural healing of the ulcer, that it was safe, practicable and efficacious, he believed it should be tried in all cases and not reserved for the complicated or desperate ones.

GENERAL.

Dr. Vaughan and Women Students.—It seems that the daily press has been making much of some remarks of Dr. Vaughan relative to female medical students. From authentic sources it is learned that Dr. Vaughan did not make the remarks that have been attributed to him.

Imported Rats Die of Plague.—Secretary A. C. Young of the State Board of Health says that a case of bubonic plague was discovered a few days ago in Waldoboro, Me., in some pet rats brought from the Philippines by a soldier.

Honor to Dr. Chaillé.—Dr. Stanford E. Chaillé, Dean of the Medical Department of Tulane University in New Orleans, has been given the degree of LL.D. by the University on his completion of fifty years in its service.

Brain Topography.—Prof. Gustav Retzius of Stockholm, in a new issue of his *Biologische Untersuchungen,* publishes an interesting paper on the brain of Mme. Sonya Kovalevski, the eminent Russian mathematician, who was born in Moscow in January, 1850, and died in February, 1891, seven years after her appointment to an associate chair of mathematics at the University of Stockholm. Professor Retzius finds in the brain of this gifted woman no marked departure from the ordinary type of brain-structure, it being of the normal form found in women generally, although of rather small size and of limited complexity. Of a certain interest is the shortening of the Sylvian fissure, a feature which was also distinctive of the brain of the mathematician Gyldén. Professor Retzius, as a result of his researches, is not disposed to deny the interesting conclusion latterly reached by Professor Möbius that the "mathematical centrum" is situated in the lateral parts of the frontal lobes of the brain—a view with which the condition of the brains of Gyldén and Kovalevski in no way conflicts; but he considers our knowledge of the subject too limited to permit as yet of a definite conclusion being arrived at. Rather would he believe that this problematical centrum is situated in the parietal region of the brain.

Strike of Physicians.—The physicians' strike in Germany, noted in a recent issue of the MEDICAL NEWS, arose in connection with the system of sickness insurance, by which some thirty million Germans are entitled to free medical attendance on payment of a small sum. Theoretically, nothing could be more perfect than such a coöperative arrangement. Practically, it has been found that the interests of the sickness bureaus (*Krankenkassen*), the doctors, and the patients clash at almost every point. The bureaus endeavor to promote economy, and desire that few cases of sickness shall be reported. The people feel that the doctors treat them unfeelingly. The doctors, on their part, find the bureaus hard taskmasters. In Leipsic the conflict has declared itself frankly. The bureau physicians, as in other cities, had organized an association to represent the profession. This commission attempted to negotiate with the bureaus for better terms and less irksome conditions of service. The bureaus refused to deal with the commission, but were willing to hear individual complaints. It was the old question of "recognizing the union." The doctors did just what workingmen do under the circumstances—struck, and the work of the Leipsic Bureaus is crippled.

At Munich the case of the doctors was still harder. Their average profits from the Bureau service were about $75 yearly. The pay was the same for the most difficult and for the lightest cases. The united effort of the physicians raised the average pay for a call to about fifteen cents. They demanded as well a special tariff for obstetrics and other difficult operations, and when such recognition was refused, like their Leipsic brethren, they struck in a body. The case would hardly call for comment were it not that patients are equally disaffected. The system oppresses them. They must take such physician as is allotted to them, and must buy their medicines at certain pharmacies, or lose the benefit of their subscription. They receive underpaid treatment grudgingly given, which is the worst treatment. They possibly lose more in equanimity than they gain in economy. While it is possible that some reform of the system may be secured, it looks very much as though its defects were radical. Organization fails when it clashes with human nature, and it is hard to see how any bureau system is consistent with the human relation that should exist between physician and patient.

Obituary.—Dr. Irving C. Rosse, a well-known physician and surgeon of Washington, D. C., died there last Friday of hydatid obstruction. He was fifty-four years old. He was a specialist in mental diseases, author of several

medical books and was a witness in the Guiteau and other famous trials.

Dr. Samuel Kuypers Lyon, who died in New York on Saturday, was born August 24, 1841, in that city. He was graduated in 1860 from Columbia College, and studied medicine under Dr. Willard Parker. He was graduated from the College of Physicians and Surgeons in 1866, serving sixteen months as junior and senior in the New York Hospital. He was appointed Attending Physician of the Heart and Lung Department of the New York Dispensary. He was a member of the County Medical Society, the Academy of Medicine, the Alumni of Columbia College, and the St. Nicholas Society.

Dr. George C. Jarvis, Surgeon of the Seventh Connecticut Regiment throughout the Civil War, and for many years a consulting physician of the Hartford Hospital, died Tuesday at Hartford, Conn., of pneumonia. He was sixty-seven years old.

American Hospitals in Pekin.—An English correspondent to the *British Medical Journal*, April 13th, comments in a manner very pleasant to Americans on the United States Hospital service at Pekin: "One fact which is realised as soon as one enters the hospital is that the medical arrangements in the American army possess a far higher degree of importance than in our own. The hospitals are not only given the best sites available, as is assumed to be the case in our army, but the amount of skilled labour supplied for employment under the direction of the chief medical officer is as unstinted as the funds placed at his disposal. Combatant officers good humouredly complained that (it's no use trying to get a nail knocked in anywhere else until the hospital is finished.) It was a surprise to most of us to find that every single American soldier on active service has a folding bedstead issued to him, no matter what his rank may be. His diet on active service contains luxuries and delicacies the names of which are scarcely known in our Commissiariat Department—personally, I think our Commissariat are to be congratulated, for the diet of our soldiers is in my opinion superior in nearly every way to that of the American army, and more suited to the requirements of a campaign—but it is not till the American soldier goes to hospital that he is really in a position to appreciate how much his Government loves him. I do not think it would be a serious exaggeration to say that the American Hospital in Pekin could hold its own in every respect with most London hospitals. Bedsteads, bedside tables and chairs, brought from America, a 'diet kitchen' at the end of the ward, with an ample cooking range and a highly-trained cook in a white apron and cap, whose life's business is cooking, and who is not expected to do anything else. He is not an enlisted soldier, and he may not know one end of a rifle from another, but he can turn out any known delicacy that ever tempted the appetite of a worn-out patient. I lay stress on this, as indeed any one would who saw those business-like diet kitchens and cooks with a lavish supply of all the apparatus, materials, and paraphernalia that a *chef* could desire The difficulty of supplying really good food to the sick on active service is a great one, but the American Government, by simply recognising this fact, and by making an extra outlay to meet the difficulty, in a large measure overcomes it."

CORRESPONDENCE.

OUR LONDON LETTER.

[From Our Special Correspondent.]

LONDON, April 27th, 1901.

THE SOUTH AFRICAN WAR—A METEORIC SHOWER OF HONORS—THE STAR-SPANGLED PRESIDENT OF THE ROYAL COLLEGE OF SURGEONS—THE COST OF THE CONSULTING SURGEONS TO THE FORCES—A SLIGHT ON THE DIRECTOR GENERAL OF THE ARMY MEDICAL SERVICE—THE ORDER OF THE BOOT—LORD ROBERTS AND THE ARMY DOCTORS—DEATH OF A MEDICAL M. P.

THE great event of the week here has been the distribution of honors for service in the South African war. The *London Gazette* (which is the official channel for the publication of such intelligence) appeared on the evening of April 19th, and the list of those whom the King delighteth to honor on this occasion extends over thirteen pages. I say "on this occasion" because the end is not yet. The present list includes only the honors given for services rendered when Lord Roberts gave up the supreme command of our forces in South Africa. There are more to come when Lord Kitchener sends in his account. In the meantime we have hardly recovered from the dazzing effect of the meteoric shower of crosses, stars and flamboyant ribbons which have lit up the normal dulness of the British sky. It will soon be almost a distinction here, as it was in the case of Lord Castlereagh amid the multi-decorated diplomatists at the Congress of Vienna, not to have an order or a title of some kind. At a time when there was an epidemic of Royal Commissions, Sydney Smith said that on any given citizen there lay the *onus probandi* that he was not a Commissioner. At present you can hardly meet a man in the street who is not a C.B. or a C.M.G.

The medical profession has got its share of decorations which like the rain have fallen on the just and on the unjust, for it must be admitted that some of the distinctions must be regarded either as sops to some Cerberus, colonial or other, than as rewards of merit. But on the whole they have been well earned. There are cases in which the recognition seems scanty. Sir William MacCormac, who was expected to get a peerage, has to be content with a K.C.B.

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(Knight Commander of the Bath), a superfluous distinction as it only carries with it a title which he already had. It does, indeed, add a decoration to the many others which makes the President of the Royal College of Surgeons when in full war-paint more star-spangled than the American flag. He is a man of fine presence and his manly bosom offers an expanse for the use of which enterprising advertisers would doubtless pay fabulous sums. But he already must find it difficult to find room on it for his decorations, and if he gets many more, he will have to hang some of them on his back. A sandwich-man with decorations instead of boards—that would indeed be an advertisement of royal favor more striking than being clad in the royal apparel and riding the King's horse!

Apart from his amiable weakness for titles and decorations, Sir William MacCormac is a most worthy man. If he is not a great surgeon he has done the work that has come to his hand faithfully and well. He stands high in the favor of the sovereign. At St. Thomas's Hospital where he was long the ruling spirit he was respected by his colleagues and liked by the students. He is popular with the profession and in spite of the honors which have fallen to him, he has no enemies—partly perhaps because he is not feared as a rival. In fact, though his name has always been much in the mouths of men, he has never had a great practice. He is rich and has no family and has therefore been able to pursue his policy of "peace with honors," free from the disturbing influence of sordid cares.

The other eminent men who went out to the seat of war as Consulting Surgeons to the Forces have to be content with the C.B. (Companion of the Bath). In this batch of surgeons of world-wide reputation like Frederick Treves and William Watson Cheyne are lumped together with promising young men whose names were before the war altogether unknown to fame. They had the wit to take at the flood the tide which leads on to fortune, and they have their reward. They did excellent work, though it may be doubted whether their services were worth the remuneration, at the rate of $25,000 a year, granted them by a grateful country. The sending out of consulting surgeons was in the first instance due to the pressure brought to bear on the War Office by influential persons who distrusted the professional capacity of the ordinary army doctor, and were anxious that the "curled darlings" of the Guards and other crack regiments in whom they were interested who might have the mischance to get a Boer bullet lodged in their dainty persons should have the best surgical craftsmen to heal their wounds. Then a generous rivalry sprang up among our surgeons, who all wished to place their knives at the disposal of their country. National susceptibilities had also to be soothed, as Scotland and Ireland were protesting against England being the favored nation. The end of the matter was that seven consulting surgeons were sent out at the public expense, besides a number of volunteers. It is by no means clear that this galaxy of surgical talent has done much more for the wounded soldiers than could have been accomplished by the medical officers of the Army; and it is thought by some who are in a position to know the facts that the vast sum of money spent in rewarding the patriotic services of the consulting surgeons would have been expended to much better purpose in improving the efficiency of the Royal Army Medical Corps.

The army doctors have had a tolerable share of distinctions, but there is great dissatisfaction at the pointed omission of the name of the Director-General of the Service from the list. The reason doubtless is that the medical organization of the campaign has been fiercely criticized by Mr. Burdett Coutts and others. The Royal Commission on South African Hospitals found that in no previous war had the medical arrangements been so good, and the credit of these arrangements belongs mainly to Surgeon-General Jameson whose reward is to have what is nothing less than a public affront put upon him by the War Office. Our present Secretary of State for War, Mr. Brodrick, poses as a strong man, and he is believed to have for some reason or other, a feeling of hostility towards the medical service. He has dealt very severely with some medical officers of high rank whom he holds responsible for the hospital "scandals" which gave notoriety-seeking critics a handle. Two or three medical Colonels have, it is understood, received instead of the C.B., the "Order of the Boot," and have besides had the pensions to which in the ordinary course they would have been entitled on retirement docked to the amount of 20 per cent. It is whispered that Mr. Brodrick was with difficulty restrained from "breaking" one distinguished officer. All this is creating a feeling of unrest and fear for the future among our army doctors.

It is noted that although Lord Roberts mentions several individual officers with commendation he has no word of praise for the R.A.M.C. as a whole. This is all the more remarkable from the lavish display of eulogistic epithets that he makes in referring to every other branch of the army. Here too may be traced the effect of the violent and too often unscrupulous attacks that have been made on the medical service. By the way, Lord Roberts has been publicly claimed by the homeopathic sect as one of their scientific, or rather unscientific, persuasion. I do not mention this as having any particular bearing on the subject, but as a matter of some psychological interest.

Dr. Tanner who was referred to in a recent letter as one of the medical Members of Parliament has since died. His case was so hopeless when I wrote that, but for the decencies of journalism, he might have been spoken of in the aorist tense. One of our lighter poets, Praed, who was also a Member of Parliament, said that he found our grave legislators "but Eton boys

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grown heavy." Of Dr. Tanner it may be said that to the end of his life he was but a medical student grown heavy. His voice was often enough heard in Parliament, it is true; but it was in cockcrowing and bawling out insolent interruptions. On one occasion when the Speaker, for some high constitutional reason or other, left the Chair, Dr. Tanner deposited himself therein, to the horror of the stolid Britons present, and to the scandal even of the Irish Members who did not care to see their cause disgraced by horse-play. As a representative of the medical profession in the House of Commons, Dr. Tanner was worse than useless, for unlike his countryman, Goldsmith, he *dis*adorned whatever he touched. He is said by those who knew him to have had a warm heart, but, unfortunately, he had a head which was not only hot but empty.

SOCIETY PROCEEDINGS.

AMERICAN SURGICAL ASSOCIATION.

Annual Meeting, Held at Baltimore, Md., May 7, 8, and 9th, 1901.

FIRST DAY—MAY 7TH.

The Cancer Problem.—At the close of the Executive Session and after the introduction of Mr. Mayo Robson, F.R.C.S., of Leeds, England, the President, Dr. Roswell Park, of Buffalo, delivered his Address. It was, in considerable measure, a repetition of Dr. Gaylord's recently published paper. In very generous criticism of the methods employed by earlier investigators, Dr. Park emphasized the coördinate importance of anti- and postmortem examinations. Each of these seem to point with equal clearness not alone to the infectious, but to the parasitic character of the neoplastic infection. At present there are three leading theories as to the etiology of cancer. Each one is championed by a nation, to the French it is a protozoon; to the Italians, a yeast; to the German, a cellular degeneration. It has been said that the long duration of the period of infection is a bar to the acceptance of the parasite theory. This seems groundless. In the New York State Laboratory was first firmly established the fact that a disentanglement of the complex problems enshrouding the etiology of neoplastic growth could be reached only through the combined efforts of biological and chemical methods of investigation. By this marshaling of their forces, Dr. Park and his colleagues concluded that the parasite is a protozoon, although as yet it is not as positively proven as it doubtless will be in the near future. Another point gained relates to the ultimate cause of death. Their chemico-biological researches prove this to be due to what he calls a "terminal infection"; a toxemia; a hematogenous infection.

Polymorphism of Parasite.—Of special interest and import is the polymorphic character of the parasite. Suspended in a hanging drop on a warm stage these varied changes can be watched until a terminal state is reached which closely simulates sporulation. Another point to which the President directed attention is the extraordinary increase of the organisms at the time of death and the ease with which, at this moment, they may be demonstrated in the blood. What of the yeasts, and the cancers produced with them by Sanfelice? In all justice it must be said that this careful Italian without doubt produced malignant growths by the yeast organisms, but Park feels that his percentage of successes were in no way comparable to those obtained at Buffalo, where, out of 14 guinea-pigs injected with parasites from *human* source, death ensued in all within fifty days; injections with organisms which had once killed a guinea-pig death resulted in twenty-five days. These injections are bacteriologically sterile; they show the organisms to be capable of an increase of virulence.

In concluding Dr. Park drew attention to the similarity between carcinoma and tuberculosis. Each begins locally; each kills by becoming general; early operation may save life in each. Sarcoma and carcinoma are due to different varieties of the same organism. Just as we now recognize three types of the malarial parasite, doubtless as many, or more exist of the parasite of neoplastic growths. Spontaneous retrocession of malignant development is probable, and is in no way incompatible with the protozoon theory of this disease.

Early Signs of Carcinoma of the Uterus.—In a highly interesting extemporaneous talk, Dr. Thomas S. Cullen of Baltimore discussed the methods employed at the Johns Hopkins Hospital of establishing an early diagnosis of uterine carinoma by the investigation of curette scrapings. He called attention to the three varieties of uterine epithelium each of which gives rise to its special form of carcinoma, and stated that the presence of large, coal-black cells in otherwise normal epithelium were pathognomonic of malignancy. His remarks were illustrated by a series of beautiful microphotographical lantern-slides.

Brief Considerations of Cancer of the Breast Treated at the Johns Hopkins Hospital Since 1889.—Dr. W. S. Halsted of Baltimore declared that the differences existing between the closely allied neoplastic growths are so subtle as to elude the most painstaking artist, nevertheless he is trying to get pictures which will show the different forms. Of 320 cases of cancer of the breast, of which 150 are not yet three years old and which he therefore excludes, he presented an interesting series of tables. In 450 cases of breast tumors he found but three to be sarcomata, one primary; one secondary to the tonsil, and one to the uterus.

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His malignant cases he tabulated as follows: Class I., cervical and axillary glands removed at first operation; class II., axillary glands removed at first operation; cervical at second; class III., cervical glands not removed.

His results were as follows: Class I., local recurrence in 11 per cent.; class II., local recurrence in 20 per cent.; class III., local recurrence in 9 per cent.

His cured cases present the following percentages: Class I., 45 per cent.; class II., 33 per cent.; class III., 43 per cent.

Late Results in Inoperable Sarcoma Treated with the Mixed Toxins.—As to the preparation of the injection fluid, Dr. Wm. B. Coley of New York had nothing new to suggest. It now seems to have reached a certain degree of perfection in that it is practically without danger, if properly used, to any except profoundly prostrated cases. If, in sarcoma—and there seems little indication for its use in carcinoma—there is no evidence of improvement at the end of three or four weeks the case may well be considered hopeless. Recent statistics compiled from the observations of many investigators, combined with his own, give the following percentages of cures: Round-cell sarcoma, 3-4 per cent.; spindle-cell, 50 per cent. The results are *nil* in melanotic and lymphosarcomata. Dr. Coley drew the following conclusions: The mixed toxins should be injected as prophylactic in *every* case of post-operative sarcoma. The treatment is rarely curative in carcinoma. The parasitic theory of malignancy is supported by the behavior of cases injected with the toxins.

Influence of Mental Depression on the Development of Malignant Disease.—In an interesting and instructive recess from the present, Dr. Joseph D. Bryant of New York traced the history of cancer from its earliest cradling by the Grecian observers to the most ultimate modern views. The Greek, with characteristic power of insight, plead rather for a physical than a mental cause in the etiology of cancer. In the darkness of the subsequent ages nothing is heard, until, with the awakening of learning, Ambrose Paré (1510) states "anger makes cancer more fierce and raging." Later, Sir Astley Cooper championed the psychopathic theory warmly and, while Velpeau denied it, Virchow and Rokitanski admitted it, with certain qualifications. Napoleon and Grant—each the victim of extreme mental depression—may have been examples of Paré's theory. These and other conditions led Dr. Bryant to look into the matter from a statistical standpoint. From a careful perusal of the death records of England, Scotland, Wales, Paris and New York, as to the relation which mental depression, as best exemplified in melancholia, he reaches the following conclusions: Of 4,458 insane cases 402 females and 343 males were melancholic; one male and four females had cancer. This shows a percentage of less than one. Out of over two million general deaths 3 died of cancer, males, 4.73 per cent.; females, 8.18 per cent., the ratio here being almost double and the average being 6.42 per cent. Thus it appears that malignancy is six times as frequent in the general community as among melancholics. Moreover, at Ward's Island $^1/_{25}$ per cent. of female melancholics are afflicted with cancer, while the rate rises to ½ per cent. in other forms of insanity. It appears, therefore, that if in melancholia, which typifies the limit of mental prostration, malignant disease is so rare, the belief that psychopathic factors play any etiological part in this dyscrasia is doubtless without foundation.

Dr. J. Collins Warren of Boston, in opening the discussion appreciated the extreme difficulty of approaching so unknown and subtle a question. He felt greatly encouraged at the wonderful display of scientific life which is taking form the country over, in the erection of laboratories devoted exclusively to the study of malignant disease. Especially he wished to compliment the New York State Legislature for their generosity in this regard. He cordially agreed with Dr. Park, in that cancer is no doubt infectious, but he called attention to the fact that, as yet, Koch's laws have not yet been applied to the supposed protozoon. He pointed out that most of the experimental work has been accomplished by inoculation. Danger lies in this, that it may constitute a sort of grafting process: an artificial metastasis. The culture of the protozoon at Harvard has so far been negative. When inoculation results have been positive, has the fluid in every way been safeguarded against contamination? The blastomycetes have recently been beautifully demonstrated by Plimmer, and there is no doubt that they have produced granular connective tissue growths. He feels assured that primary and secondary cancers may disappear, this due to the fact that occasionally katabolism and its accompanying degenerations may exceed anabolism. As a means of more intelligently discussing the results of operations on the breast he suggests the division of these cases into three classes, (*a*) favorable, (*b*) unfavorable, (*c*) palliative. While admitting that Coley's fluid had proved negative in the hands of most operators, he urged the continuance of its use and the encouragement of a treatment which afforded to the hopeless even a single ray of light.

Dr. Thomas S. Cullen of Baltimore in discussion said that although the statements of Drs. Park and Gaylord were very alluring and despite the fact of his having seen some of the latter's most exquisite slides, there yet remains much to be said and done ere the protozoon theory can be considered established.

In closing the discussion, Dr. Park, with characteristic diffidence, admitted the poignancy of these criticisms, but felt certain that within a

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short time they would all be happily disproved.

Blood Examination as an Aid to Surgical Diagnosis.—Dr. J. C. Bloodgood of Baltimore asked and answered the following interesting questions: Does the blood afford any constant variation in any of its factors which can be of use in diagnosing the complication of intestinal rupture in severe abdominal contusions? If this exist, it has not, as yet, been discovered. Another problem upon which the blood again throws no light is the differentiation between shock and internal hemorhage. From the blood, however, we do obtain a very sure contra-indication to operations which are not imperatively called for this is a low hemoglobin reading. Fifty per cent. or less should in this class of cases contra-indicate the operation until, by the administration of certain drugs, it can be brought more nearly to the normal. Of special interest were his remarks on post-operative leucocytosis; this he considers a positively assured fact. While leucocytosis also occurs with invariable certainty in intestinal obstruction and peritonitis, in the former it is of the profoundest value because life can almost always be saved by early operation. This of course is not true of peritonitis. In concluding he admitted that even a very high degree of leucocytosis is not *per se* pathognomonic. It is, however, at least as important as T.P.R. and may justly be considered to be of greater value than any one of the three. A leucocytosis exceeding 20,000 twenty hours after the onset of an attack constitutes a faithful guide to prompt operation no matter what may be the clinical symptoms.

Clinical Value of Blood Examinations in Appendicitis.—Dr. J. C. Da Costa, Jr., of Philadelphia presented a report of 118 cases upon which he had operated. He felt that a simple classification always afforded clearness, and he therefore divided his cases into two types, namely, (1) non-purulent, simple and catarrhal; (2) purulent, with or without gangrene and peritonitis. In all but 38 cases there was pus. The hemoglobin averaged about 70 per cent. in the 118 cases; in Class 2 it occasionally fell to 30 per cent. The red cells are usually present in about normal number in both classes. This is not in accord with the accepted belief. Although in some isolated cases the color index has actually approached that found in pernicious anemia, it averages .82. Whatever variations and irregularities may exist, the leucocytosis is constant in Class 2—the only factors which can interfere with this manifestation being the so-called "walling off" and, though very rarely, extreme exhaustion. Dr. DaCosta summed up as follows: (1) The hemoglobin reading in the average case averages about 70 per cent.; erythrocytes, 4,500,000. Profound anemia may contra-indicate operation. (2) There is a moderate leucocytosis with or without pus. (3) A leucocytosis below 20,000 does not call for operation. (4) A leucocytosis of 20,000 or more occurring within twenty hours of the first attack indicates pus and immediate operation. (5) Failure of the leucocytes to return to normal after operation indicates the probable presence of pus pockets.

Blood Examination in Relation to Surgical Diagnosis.—Dr. J. B. Blake of Boston, on behalf of himself and his two collaborators, Drs. J. C. Hubbard and R. C. Cabot of Boston, said that after a series of experiments, conducted with a view of determining the presence or absence of an ether leucocytosis, they had decided that it rarely, if ever, existed. Thirty-six hours after operation, all post-operative leucocytosis has vanished. In uncomplicated fractures the count rarely exceeds 12,000. A singular fact established by that series of experiments is the hemoglobin gain after neoplastic excisions, this being contrary to the accepted belief. The prognostication of typhoid perforation remains still in the dark, the so-called "wave" being of no significance. The hemic changes following prolonged, violent, muscular exercise bear an interesting relation to certain forms of disease; the runners in the so-called Marathon races developed counts of over 20,000; the polymorphonuclear cells increased 75 per cent. to 90 per cent.; the eosinophiles were absent, the lymphocytes diminished. These last observations were made in the hope that the runners would present hemic conditions which might throw some light on shock, since their profound depression seemed to simulate this condition, but such was not the case.

Effect on the Blood of Ether Used as an Anesthetic.—D. J. Chalmers Da Costa of Philadelphia said that no possible exception could be taken to his conclusions because of the care he had used in the preparation of the patients who had furnished the data for this report. By purgation and diaphoresis he had approximated them to the condition of the average operation case. Ether increases the number of the erythrocytes, diminishes the hemoglobin and reduces the color index. The hemolytic function is increased. He feels operation to be contra-indicated below 40 per cent. of hemoglobin, unless life be imperiled by the delay. In the presence of any anemia the routine purgation should be avoided or made as light as possible.

Examination of the Blood in Relation to Surgery of Scientific Value, but too Often of No Practical Value.—Dr. John B. Deaver of Philadelphia, with characteristic energy, affirmed that blood-counts, hematocrits, and so on, had taken altogether too prominent a place in surgery and were displacing bedside observations. He considered it absurd that any degree of anemia should stand in the way of a needed operation and said that he had never found any danger arising from anesthetizing and operating upon profoundly anemic patients.

In the discussion of these papers Dr. B. F. Curtis of New York said he was at a loss to interpret the reports from Boston. In his service at St. Luke's Hospital a great number of counts had been made with a view to establishing the

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degree of leucocytosis which exists during ether anesthetization and he had considered it definitely proven that the count is always high irrespective of the patient's condition or the character of the operation. Intraspinal anesthesia yields a progressive increase in from one to five hours. He has considered post-operative leucocytosis so fixed a factor as to believe it seriously interferes with any prognosis of wound infection which might otherwise be gained through the hemic count.

(To be Continued)

ASSOCIATION OF AMERICAN PHYSICIANS.

Sixteenth Annual Meeting, Held at Washington, D. C., April 30 and May 1 and 2, 1901.

(Concluded from Page 723.)

SECOND DAY—MAY 1ST.

THE nominees of the first day were all elected.

Clinical Features of Bubonic Plague.—Dr. L. F. Barker of Chicago gave a résumé of the clinical features observed by him in the plague cases at San Francisco. The disease is primarily a septicemia and may show a general sepsis without any local lesions; in the more resistant cases there may be only a local reaction and no marked general reaction. The San Francisco cases were not peculiar; they were identical with cases seen in other epidemics, resembling notably those observed in the beginning of a general epidemic. The type is a "sneaking" type, as was reported in the Bombay and Hong-kong epidemics before the great outbreak in those places. Thus far, in San Francisco few rats have been found to have the disease. While only 31 cases have been reported from San Francisco it is highly probable than more than this number have been attacked. Certain minor differences in age at onset and in the matter of sex were observed, but these were due purely to local conditions.

Type of Disease.—In San Francisco the type of the disease thus far has been truly bubonic, one case of primary septicemia and one of pulmonary invasion alone being reported. Should the disease become more prevalent other types will probably appear, but this is not now probable in view of the arrangement for sanitary control now provided.

Clinical Features.—The disease is usually ushered in by a chill and a rapid rise in temperature which may intermit and become irregular. Anorexia, nausea and vomiting, succeeded by delirium and coma are the symptoms in the acute severe cases. Within twenty-four hours a bubo appears and, the disease progressing, the patient may die on the fourth to sixth day. If the patient lives more than six days recovery is likely to occur. In those that persist for a number of weeks suppuration of the buboes occurs. The bubo affection is different from a simple lymphatic infection. It becomes very large, varying in size from a hen's egg to that of a man's fist; sometimes at first the gland itself may be palpated, but the rapid increase, not of a single lymph-node, but of the entire glandular structures soon makes a swelling markedly different from anything else. There develops a rapid and marked edema which has a peculiar elastic quality and the whole swelling shows signs of hemorrhagic infiltration. The attitude of the patient is often pathognomonic. A position which relaxes the tissues about the swollen gland is adopted; the patient usually being drawn up, the knees lying close to the chest, especially if the groin is involved. This is the favorite site, the cervical is next. No cases of axillary bubo were observed in the San Francisco cases. Cervical buboes are often associated with enlarged tonsils. Dr. Barker made a distinction between primary buboes and secondary ones. He also spoke of the pulmonic type, the septicemic type, *pestis siderans* and the walking cases, *pestis minor*. These latter were important cases, as they were very common at the beginning and end of an epidemic, and were of particular importance when the problem of control was under consideration. The question of so-called *climatic buboes* was of importance as it was claimed by many that the Chinese suffered from such an affection. Dr. Baker thought it wise to consider these plague cases until they were proved not to be so.

Prophylaxis.—The diagnosis of the first case was all important and in order to make such a diagnosis a dead patient was as useful, if not more so than a live one. A bacterial examination is the prime requisite. The diagnosis, he thought, was an extremely simple one for a trained bacteriologist who had had some clinical experience with the plague.

Differential Diagnosis.—The most important diseases to exclude are malaria, where a research for the parasite suffices, although mixed cases do occur; in the early stages of typhoid it is very difficult to make the diagnosis; in relapsing fever the *spirillum* is sufficient; venereal buboes, not difficult, as they do not have the characteristic edema, hemorrhage nor great infiltration; anthrax, bacterial diagnosis suffices. In Mongolians, he thought it wise to consider every case of fever as plague until proven otherwise and that every cadaver should be examined by a trained bacteriologist. Finally, with reference to treatment, the Roux-Yersin serum should be used.

Bacteriology of Plague.—Dr. F. G. Novy of Ann Arbor said, with reference to the bacterial diagnosis, that frequently the bacteria could not be obtained from the living patient. A hypodermic might be plunged into a bubo and the fluid obtained examined, but this did not always give positive results. Direct examination of the blood more often gave negative results, but cultural experiments were usually positive. In the pulmonary form the diagnosis

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was very simple as the bacillus was found in the sputum in large quantities. It might also be found in the urine and in splenic pulp. Animal experimentations were necessary and final as most animals, notably the rat, gave positive evidences of the disease within a very short time. The typical plague bacillus is a short, stout rod, occurring singly and showing a peculiar bipolar staining, when fresh; old and senile specimens showed many involution forms. Dr. Novy described in detail the case of accidental infection of one of the laboratory workers at Ann Arbor occasioned by infection from one of the organisms obtained from the San Francisco expedition. The case was of the pulmonary type and recovered after free use of the Roux-Yersin serum.

Pathology of Bubonic Plague.—Dr. Simon Flexner of Philadelphia described in detail the characteristic lesions observed in these same cases. He though that the infection was largely a direct one and was spread in the body mainly through the lymphatics. He knew of no pathological condition which gave lesions which resembled those of the plague, hence a diagnosis of this disease might be made by a pathological examination alone. The glandular enlargement in the lymph-glands was due to a cell proliferation in the lymph-sinuses. The hemorrhage was excessive and characteristic; the edema was very prominent and was not confined to the lymphatic structures alone, but spread into the muscular tissues. The enormous growth of bacteria was marked; the organisms being numerous enough at times to cause thrombi in the lymph-sinuses, thereby causing obstruction to the flow of the lymphatics. This in part is responsible for the necrosis so frequently found. The pneumonia is usually of a lobular type, although by the merging of the lobules a pseudolobar pneumonia might result. Enlarged spleen, from vascular engorgement and an acute splenitis, is usually present. The bacteria may be thrown off from the skin, from suppurating buboes, from the sputum, from the buccal secretions, from the urine and from the feces. These excreta, therefore, should be disinfected.

In the discussion Surgeon-General Sternberg spoke of the debt that this country owed to the development of the study of bacteriology, inasmuch as had this disease occurred twenty years ago, it would in all probability have swept over the entire country.

Drs. Vaughan and Dock of Ann Arbor contributed some interesting details regarding the accidental case of laboratory plague already alluded to. Dr. Dock said that the Roux-Yersin serum probably saved the patient's life, as pulmonic-plague was usually fatal in every case.

Yellow Fever.—Drs. Walter Reed and James Carroll, U. S. A., reported some further details concerning the development of yellow fever. It had seemed to them that at this time it was more important to determine the precise mode of communication of the disease than to search for the specific organism, and they brought forward additional evidence in favor of the mosquito theory of conveyance. They made conclusive experiments bearing on three suspected modes of contagions: (1) By means of contaminated mosquitoes, *Culex fasciatus;* (2) by means of inoculations of blood, and, (3) by exposure to intimate contact with clothing, dejecta, etc. In some further experiments they proved that the method of contagion by blood inoculations was positive, as was also that by the mosquito, but that simple contact with fomites was negative in every case.

Incubation Period.—In blood inoculations, as well as by mosquito bites, the period of incubation averaged between three and four days. It was interesting to note that mosquitoes infected by biting yellow-fever patients were capable of transmitting the disease as late as seventy-one days after their infection.

Dr. Sternberg thought that the demonstrations of Drs. Reed and Carroll had now solved the problem of the contagion of yellow fever and had cleared up many of the apparent contradictions concerning its etiology.

Dr. W. H. Welch commented on the fact that the real heroes of the Spanish-American war were the United States soldiers who had volunteered to run the risks of being inoculated with yellow fever. None of them had died yet the honor was theirs.

Malarial Nephritis.—Dr. James Ewing of New York reported an interesting case of hemorrhagic nephritis due to the accumulation of enormous masses of the estivo-autumnal type of malarial parasite in the kidney. Renal disease is often due to toxic products derived from these parasites, but in this instance the cause was held to be a mechanical one. These masses of infected red cells formed thrombi which produced renal infarcts which in turn determined the degeneration of the cortical tubules. He said that three types of malarial nephritis might be distinguished: (1) An acute degeneration due to the development of toxic substances; (2) an acute degeneration due to focal necrosis in the hemoglobinuric type of malaria, and (3) a degeneration due to the development of masses of parasites which by mechanical means alone produced thrombi and renal infarcts.

Septic Infection from Stomach and Intestines.—Dr. Walter B. James said that septic infection through the gastric and duodenal mucosa was considered rare, but that of late years he had come to believe it more common than was usually supposed. The bacterial flora of the stomach and duodenum was very extensive and many researches had shown that numerous organisms survived the ordinary digestive processes. It was not then improbable

that if a solution of continuity of the gastric or duodenal mucosa was present that septic infection might take place thereby. He reported several cases showing mild and severe septicemia in which erosions of these mucous membranes, adenoma, ulcer, etc., were the only indications *postmortem* of the possibility of accounting for the conditions. In discussing the subject of gastric ulcer he said that over 50 per cent. of his cases in the Presbyterian Hospital had hectic fever, probably due to absorption through the eroded mucous membrane.

Streptothrical Infections.—Dr. J. H. Musser of Philadelphia reported two cases; one an abscess of the brain and another a bronchitis and bronchopneumonia in which organisms closely resembling *streptothrix* had been found. One of the cases might be considered as one of tuberculosis, with the peculiar type of branched bacillus tuberculosis.

Chemistry of the Tubercle Bacillus.—Drs. E. L. Trudeau and P. A. Levene of Saranac Lake presented specimens of bodies isolated from the tubercle bacillus. These were (1) a coloring body, reddish in general tint and fluorescent; (2) wax-like body, probably present in a proportion of about 30 per cent. in the organism; (3) cellulose body resembling somewhat the peculiar fungus cellulose, reacting like chitin of insects elytra, lobster shell, etc.; (4) three nucleoproteids, one of which produced almost pure nucleic acid, and (5) glycogen.

Dr. Abbott commented on the fact that the mucinoid substances developed by *bacillus pyocyaneus* showed reactions closely resembling mucin and cellulose.

Dr. Vaughan described an enormous incubator devised by him to cultivate large quantities of bacteria in order to further their chemical study. This culture chamber had a growing surface of 20 square feet.

Urine as a Culture Medium.—Dr. W. H. Park of New York presented a paper bearing on the practical question of the urine as a medium for the cultivation of bacteria. He showed that the acidity of the normal healthy urine had a wide amplitude of variation and that within the limits of such acidity, the growth of most pathogenic bacteria was diminished or checked. Thus, within the limits of the normal acidity, the gonococcus could not be made to grow and that acid urines were not favorable to the growth of the colon and typhoid bacilli, nor to the proteus nor staphylococcus. He had observed that in some urines no bacteria would grow. The practical point brought out was that an increase in the acidity was inimical to the growth of most of the pathogenic organisms and that by an increase in the acidity of the urine an efficient means could be found to prevent infection. In this manner cystitis, pyelitis and pyelonephritis might be avoided.

Orchitis and Typhoid Fever.—Dr. F. P. Kinnicutt of New York spoke of this comparatively rare complication of typhoid fever. In an analysis of some 800 cases of typhoid treated at the Presbyterian Hospital he had noted the complication in but two instances. In one case the gland suppurated and the *bacillus typhosus* was found in the pus. In cases occurring some weeks after the recovery of the patient, it is not improbable that some other cause might be found. He made a résumé of the available literature and showed that in many cases the typhoid organism had been found either in the serum of the gland or in suppurative foci and it therefore seemed proved that the typhoid organism bore a direct relation to the orchitis. It is probable that the organisms reach the vas deferens by means of the blood channel. Thrombi occur, phlebitis develops and the orchitis thus has its origin. He concluded that orchitis was a rare complication of typhoid fever; it occurs late in the disease or during convalescence; it may be unilateral or bilateral and goes on to resolution, suppuration occurring in but 25 per cent.; local necrosis, however, of a portion of the testis is not uncommon, or the entire testicle may be destroyed; atrophy of the testicle may perhaps develop; there is little constitutional disturbance and death by reason of the accident is thus far unknown.

Treatment of Cancer by the Roentgen Rays.—Dr. F. H. Williams of Boston said that at the present time it was premature to draw any conclusions regarding the ultimate value that the X-ray might be found to have in the treatment of cancer. The present outlook, however, was very hopeful. In certain cases of flat epithelioma of the face, which were amenable to treatment by simple caustics, the burning action of the X-rays filled a similar office, and here could be considered merely as a caustic. In other cases, and these were those for which much is expected, the caustic action does not account for the benefit obtained. In a number of cases of flat epithelioma of the face, 11 being reported, the results were excellent. One case of epidermal cancer of the lips and a large flat epithelioma of the hand were reported and photographs shown, evidencing the value of the treatment.

Advantages and Disadvantages.—The safety of the method was spoken of. There was not pain, nor delay in the beginning of treatment, as is so frequently necessary in raising the tone of the patient to stand an operative shock; no burns are produced, the cosmetic effects are excellent; sometimes improvement once begun goes on to cure without continuous treatment; the patients can attend regularly to their work. Some of the disadvantages were the necessity of great care in the prevention of burns, the expense of the apparatus and the long-continued course of treatment necessary.

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Osteitis Deformans.—Drs. F. A. Packard and J. Dutton Steele of Philadelphia reported a case of this rare disease. Comment was made of the fact that diagnosis during life was very difficult and that in view of the great lack of criteria by which the general subject of bony lesions was to be judged, they offered no theories regarding the probable nature of the affection.

Arthritis Deformans.—Dr. William Osler of Baltimore spoke of the obscurity concerning the etiology of this affection. Is it nervous? Does it belong to the peculiar unknown groups of para-bacillary diseases. Are there several distinct types of the affection? He spoke of three fairly well-marked clinical manifestations. One occurring in young children with enlarged spleens and involved lymp-nodes; another occurring in adults, with atrophic changes, and a third, also in adults, usually past middle life, with the development of ringbone, osteophytes, many of which are developed with great suddenness. At times the disease shows curious localizations, sometimes involving several joints, again only a few, symmetrically disposed joints. An acute onset, resembling rheumatism is not infrequent.

Spinal Column Cases.—He alluded to the interest manifested of late years in this type of cases, especially taken by neurologists. Two forms were considered in detail. In the Von Bechterew type there was great rigidity of the spinal column, with marked kyphosis, muscular atrophy. In addition there was a marked hereditary tendency, usually a history of injury, but most important there were symptoms, chiefly pain and other sensory disturbances, which pointed to an implication of the nerve-roots, just within the cord or the spinal processes. In a second type the Marie-Strümpell variety, there was the same spinal rigidity and kyphosis, and in addition a marked tendency on the part of the larger joints to become ankylosed. There are no root symptoms in this type. Dr. Osler was inclined to the belief that it was not necessary to suppose these to be different affections and due to disease of the nervous system; it was wiser not to dissociate them and to regard them essentially as joint lesions and to account for the root symptoms, in Von Bechterew's cases especially, on purely mechanical grounds.

Dr. F. Stockton of Buffalo and Dr. Lamb of Washington exhibited some skeletons showing characteristic lesions of this affection.

In the discussion Dr. B. Sachs of New York said that he coincided, in the main, with what Dr. Osler had said. He did not regard Von Bechterew as correct in his interpretation of the cause of the root symptoms.

Dr. Cabot said that acute destruction as seen in the atrophic cases and chronic production as seen in the larger number of cases, should not be considered as different stages of the same pathological process; they were, in all probability different entities. He called attention to the great benefit that might be secured to such patients by the use of mechanical support. Many intractable cases, usually termed a mixture of lumbago and sciatica, are often cured by appropriate mechanical support.

Tropho-Neuroses and Vascular Diseases of the Extremities.—Dr. B. Sachs of New York said that in studying a case of erythromelalgia his attention had been called to the marked degeneration, with thickening, arteritis obliterans, of the blood-vessels of the affected area. This had led him to the proposition that perhaps many of the so-called tropho-neuroses might not be nervous in their origin, either as due to central nerve changes or as nerve end neuritides, but were possibly due to arterial changes. It was of much importance that a proper appreciation of the general condition of the blood-vessels should be kept in mind in the study of all cases supposed to belong to the class of tropho-neuroses. An investigation of the condition of the arteries of the lower extremities is of much value and is frequently overlooked.

Subcortical Glioma.—Dr. J. Stewart of Montreal gave a history in detail of a case which in its early phases presented attacks of disarthyria and deaf mutism for periods of one-half hour or so. Headaches, twitching of the muscles of the face developed and at times numbness in the face and arms. Failing sight was also a symptom. With reference to the disarthyria the labials were first affected. The symptoms developed progressively until complete anarthyria was present. A slight grade of dysgraphia developed. There was no aphasia. It was diagnosed that the lesion was subcortical and on operation a normal cortex was found; beneath the lower part of the ascending frontal convolution a dense mass could be palpated and a firm encapsulated tumor, 1 x ¾ inch, was enucleated. This proved to be a glioma. The patient ultimately recovered.

Jacksonian Epilepsy.—Dr. James J. Putnam of Boston said that within recent years it had become for him a distinct query whether operation for the relief or cure of Jacksonian epilepsy was advisable. He asked if, in the first place, the operation was of any use? If cortical excision alone was sufficient, and, finally, how could the symptoms of epilepsy be explained by any theory of cortical action? In reply to the first question his answer was, yes, as the number of cases which the operation had benefited was too great to gainsay. It was a question, however, whether cortical excision alone was sufficient. In a number of instances he had observed that the simple opening of the skull or with excision of the dura had been sufficient to relieve the epileptic attacks, for a time at least. In such cases

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suggestion thereby seemed the only applicable theory to apply. Dr. Putnam did not believe much in a cortical epileptic center.

In the discussion Dr. Sachs said that whereas a healthy conservatism had been manifest of late years with reference to this operation, nevertheless it was advisable to operate early in such cases. If the time was well chosen better results might be obtained.

Family Periodic Paralysis.—Drs. J. K. Mitchell, S. Flexner and D. L. Edsall of Philadephia reported two cases of this affection in detail with a series of chemical and blood investigations made with a view to arrive at clearer ideas regarding its etiology. Animal experiments proved negative. No products toxic to guinea-pigs or rabbits were obtained either in the blood or in the urine. During an attack there was an increased alkalinity of the blood. Search for acetone, di-acetic acid, etc., was negative. The investigation of the amount of kreatin and kreatinin seemed to offer some light, as an increase in these products usually preceded the attacks. The disturbed metabolism took place largely in the affected muscles themselves. Citrate of potash had proven of some value in the therapy.

Heredity of Appendicitis.—Dr. F. Forscheimer of Cincinnati showed charts of three families in which a distinct family history of appendicitis could be shown for several generations. In many of the cases an attendant neurotic history was also manifest.

THIRD DAY—MAY 2D.

Diverticulum of the Esophagus.—Dr. F. Pfaff of Boston gave a series of observations concerning the process of digestion as a result of the investigation of the contents of an esophageal diverticulum. The patient learned to feed himself by means of the stomach-tube, but regurgitated all solid food taken by the mouth.

Action of Ptyalin on Digestion.—In the diverticulum it was shown that a certain percentage of starch digestion could go on. There was no pepsin nor HCl in the diverticulum. Within the stomach an entire absence of ptyalin had no adverse results on the digestive process. Its action could be dispensed with. Lactic acid could be found in the diverticulum if there was bacterial action, but in the absence of such this acid did not develop. Absorption from the walls of the diverticulum was *nil*. The amount of modification of the epithelium should be considered a factor nevertheless.

Early Recognition of Tuberculosis.—Dr. E. L. Trudeau of Saranac Lake said that much of the lack of success in the sanatorium treatment of tuberculosis was due to the fact that the patients were sent there too late in the disease. It was very plain to him that in the distinctly incipient stages, the disease was curable by the sanatorium method, but that his experience bore out that of others working in similar fields, that the great majority of the cases came when advanced inroads had been made by the tuberculous process. The most important factor, he thought, was that of early diagnosis, and much of the time spent on useless methods, such as counting bacteria, might better be spent in perfecting one's self in the art of diagnosis, especially with the view to the discovery of the initial onset. In veiled cases he advocated the use of the tuberculin reaction.

Burns.—Drs. J. G. Adami and J. McCrae of Montreal read a paper on this subject. They found that the pathological changes, especially in the lymphatics, resembled very closely those found after death by the bacterial toxins, diphtheria, for instance, and they were led to consider that the cause of death in extensive burns might be due to some form of toxemia, possibly hemic in its origin. This toxemia is probably chemical in its nature and affects other organs of the body, notably the kidneys, in which an acute degenerative nephritis is set up.

Hemolysis.—Dr. S. J. Meltzer of New York read a paper on this subject. He discussed in full the subjects of immunity and agglutination, from the analogous standpoint of hemolysis. It has been shown that the effects of the blood of an animal of one species had a marked effect on the red corpuscles of another species. This was first learned when animal blood transfusions were practised. In practise this phenomenon has been widely studied and shows many analogies to the action of sera on bacterial bodies. There are certain natural poisons for red blood-cells; they contain hemolytic substances; thus, eel's serum is very markedly destructive to the red cells of the rabbit. By repeated vaccination, however, the rabbit's blood may acquire antitoxic powers which will ultimately protect the red cells from the hemolysins of the eel's serum. Dr. Meltzer's studies were principally along the line of introducing heterologous blood sera into the peritoneal cavity of other animals, whereby the antitoxic properties were developed. The subject is a new one and requires many more observations to permit generalizations.

MEDICAL ASSOCIATION OF THE GREATER CITY OF NEW YORK.

Stated Meeting, Held April 8, 1901.

J. Blake White, M.D., Chairman for the Borough of Manhattan, Presiding.

Food as a Factor in the Causation of Disease.—Dr. Elmer Lee read a paper on this subject. The science of living, he said, begins at the mouth. As a man eats and digests his food, so is he. Disease is latent in every man,

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and at all times. Food is both the saving and the undoing of health. Food, rightly used, means health and strength. Neglect to feed the body safely is the starting-point in pathology. The universality of sickness, suffering and premature death requires a universal cause for their explanation. The habit of letting into the system unprepared and unsafe nutriment is the only admissible solution. Theories have long been put out to explain the riddle, but have ever remained theories. In the extreme urgency to satisfy the demand for an answer to the question, plausible hypotheses have grown up. The germ theory is the one most prominent at this time, but it is incomplete and unsatisfactory, for it cannot account for the germ itself.

There is one health, and that condition which is not health is disease. Any departure from perfect health and economy of vital action is a first stage of disease. Every variation from the normal state is a degree. Sickness is composed of many degrees. The words "slight," "serious," "dangerous" and "fatal" are terms representing different states or degrees of disease. But in each instance disease is a backward process, while health is progressive. Inaction and retarded action within the body are the beginnings of disease from the misuse of food. As food enters into the substance of man, so is it his health or the opposite. All systems of medicine amount to nothing unless founded on what is carried within the human body as essential nutriment to its growth and life. The right uses of food build for health and vigor and preclude disease. Each physician should apply the test of sound and continuous health to himself as the measure of his scientific knowledge of human vital action. Sound and continuous health is the sequence of habitual living by knowledge and not by chance.

Statements of the Paper Too Sweeping.—Dr. Ransford E. Van Gieson thought that all must acknowledge that the improper selection and preparation of food and imperfect mastication are undoubtedly responsible for a large amount of ill health. Man is more or less an animal, but his instincts do not always guide him correctly, as in the case of the lower animals. Doubtless the broad ground taken by Dr. Lee is measurably true, and it is a matter of observation that the physician who is most successful is he who takes the greatest pains to instruct his patients in regard to their diet and the proper manner of taking it. But, at the same time, Dr. Van Gieson said, he was not prepared to accept in its totality the theory as to the universal causation of disease set forth in the paper. He would especially take exception as regards the etiology of epidemic disease. Like most medical practitioners, as they grew older, he had come to entertain doubts as to the universality of germ pathogeny, but still he could not but believe that there are certain forms of epidemic disease the origin of which is explainable on no other hypothesis. Take, for instance, influenza, which sweeps rapidly over a community and strikes down not only the weak, but the strong and those who are in perfect health.

Necessity of Complete Mastication.—Within the past two weeks he had found it necessary no less than fifty times to urge the advice, *eat slowly*, in cases of various forms of indigestion presenting themselves in his practice. If such patients told him that they were obliged to eat their meals hurriedly he instructed them that it was much better to go without eating at all until they could get time to eat properly. It was unfortunately true that most of us were apt, in our busy practice, to lose sight of the elementary truth regarding this most important subject.

Every Physician Should Be a Good Cook.—Every practitioner should know practically how to cook. Even the best trained nurses were often woefully ignorant on this matter. and the medical attendant should always be ready to give exact instructions as to the proper preparation of diet, and, if need be, to prepare it himself.

Various Forms of Disease Caused by Special Kinds of Food.—Dr. Edward Quintard said that one good reason why the teachings of Hippocrates still survived and were still held in such high esteem was because they were characterized by such strong common sense. On the present occasion he would not attempt any theorizing, but would briefly relate a few instances coming under his personal observation in which special varieties of disease were produced by particular articles of diet. Having spoken of the eczematous-like eruption caused by oatmeal, he said that he had met with three cases in which the eating of salted almonds resulted in the production of peculiar little ulcers of the tongue. He had frequently observed that the free use of sweets and pastry gave rise to a peculiar form of gastritis accompanied by hyperacidity. In subjects with a tendency to affections of the mucous membranes highly-seasoned foods were also very apt to produce gastritis. From cases he had observed he was inclined to the opinion that in chlorotic girls, much given to the use of sweets and suffering from hyperacidity, such food is sometimes the cause of gastric ulcer. There is a peculiar form of diarrhea, almost dysenteric in character and coming on almost immediately after meals, which is due to an inordinate amount of fluid taken with the meals. This had the effect of diluting the gastric juice to such an extent that it could not properly perform its function, and increased peristalsis was caused by the irritation thus set up in the intestine.

Bacteriology Not Ignored.—Dr. C. N. B. Cammac said that Dr. Lee's ideas were far from being out of accord with the results of

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bacteriological research. It was because of a loss of nutrition in some part of the body that the disease germs were enabled to get a foothold. Thus, pernicious anemia was caused by a gradual failure of resistance on the part of the digestive tract to the onset of microorganisms having a destructive action upon the blood.

Not Safe to Generalize Too Much.—Dr. A. Rose thought there was a danger in generalizing too much. He had known of patients who, under a carefully-regulated diet prescribed by stomach specialists, had continued to suffer greatly, but who, when allowed to eat everything they wanted to, immediately got well. We should not forget that what is satisfactory in the case of one individual may be dangerous to another. Gerhardt had pointed out that many of the late hemorrhages in typhoid fever were due, not to typhoid ulcerations in the intestine, but to a form of scurvy resulting from an exclusive milk diet. He therefore advised that typhoid patients should be given more or less vegetable food, such as spinach, watercress, and the like.

CHICAGO PATHOLOGICAL SOCIETY.

Stated Meeting, Held April 8, 1901.

The President, L. Hektoen, M.D., in the Chair.

Varicose Veins of the Right Upper Extremity in a Child.—Dr. Bertha E. Bush reported this case, placing on record a developmental varix, in a young child, the process affecting the anterior superficial veins of the entire right hand, arm and shoulder. Numerous saccular dilatations occur just beneath the skin, those at the inner end of the clavicle and in the palm of the hand being the most conspicuous, Skiagraphs show deformity of the right metacarpal bones, and generally diminished growth of the arm and hand. There is no pulsation nor edema, and no history of hemorrhage. Noteworthy points in the case are: (1) The congenital origin; (2) the region involved; (3) the obscure etiology, and (4) the scarcity of literature.

Blastomycetic (Oidiomycetic) Dermatitis.—Dr. H. T. Ricketts presented a consideration of this condition, with demonstrations. Through the courtesies from Professors Hyde, Montgomery and Hektoen, he had studied the pathological and mycological features of ten new cases of blastomycetic (oidiomycetic) dermatitis observed during the last eighteen months, mostly in the clinic of Professors Hyde and Montgomery. The work was done in the Pathological Laboratory of Rush Medical College. There is a clinical history in all cases; the process beginning as a pustule, which becomes a larger ulcer, the surface later being covered with coarse papillæ bathed in pus. A reddish areola containing miliary abscesses surrounds the verrucose tissue; the center of the lesion cicatrizes as the periphery extends.

The histological features are uniform; carcinomatoid proliferation, and leucocytic infiltration of the epithelium, intra-epithelial abscesses, premature and abnormal cornification, peculiar retrogressive epithelial changes and epithelial giant cells, and in the corium, dense leucocytic and plasma-cell infiltration, fixed tissue proliferation, subcutaneous abscesses, giant cells and tubercles, resembling those of tuberculosis, but being less typical in the inter-relationship of cells and showing less advanced regressive changes. Plasma-cells seek the periphery of the process. Apparently there is an eosinophilous type of the disease, which, in the cases studied, is associated with a mold-fungus form of the parasite, and very large papillæ. Russel's fuchsin bodies are found in plasma-cells and intercellular spaces. There is a close relationship between plasma-cells and the formation of a peripheral protective zone of fibrous tissue. They do not appear to become fibroblasts, but to undergo a gradual disintegration as provender for forming fibrous tissue. Mast-cells exist in large numbers, and are classified as (1) leucocytic; (2) connective tissue cell type; (3) those possessing halos; and, (4) the plasma-mast-cell type. In the tissue the organisms are found singly, in budding pairs and in groups, in intra-epithelial and subcutaneous abscesses, free between healthy rete cells, in giant cells, and in the granulation tissue of the corium.

Organism Cultivated.—From seven cases the organisms have been cultivated. They fall into three groups: (1) the yeast-like, resembling those of Hektoen, Hessler, Busse and Curtis; (2) the oidium-like; (3) the mold-fungus type, resembling the organism isolated by Ophulis and Moffit from the protozoic (?) disease. Study shows that all these have common generic properties, and are separated only by specific characteristics which are more or less variable. In accordance with pre-existing nomenclature they all belong to the genus oidium. "Blastomyces" is considered not sufficiently inclusive. Pure cultures inoculated into animals produce local abscesses, septicemia, or if injected into veins, mycotic nodules and consolidation in the lungs. The various methods of proliferation in cultures are, germination, lateral conidia, terminal spore-groups, abjunction of mycelial segments, aerial conidium-bearing hyphæ (in the mold-fungus), and questionable endogenous spore-formation.

Of many inoculations of tissue from man into guinea-pigs, none have resulted in tuberculosis. A study of Busse's case of "Sacchromycosis hominis," of the protozoic (?) disease of Wernicke, Gilchrist, Ophulis and Moffit, and others, and of Blastomycetic dermatitis, together with the fungi concerned in

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all, affords convincing evidence that the three are closely related processes, caused by similar organisms; the protozoic (?) disease and Saccharomycosis hominis (Busse) are examples of the generalized infection, while Blastomycetic dermatitis (Gilchrist) is a local manifestation of the disease.

The term *Oidiomycosis* is suggested as a name for the combined manifestations.

Dr. Maxmillian Herzog said that if so many varieties of organisms are found in cases of clinical blastomycetic dermatitis, they can not be a single disease which is due to a single cause.

Dr. Ricketts in closing said he did not insist on the use of the term oidiomycosis. He considered the protozoan diseases as due to an organism very closely related to the ones under consideration.

Infection by the Bacillus Aerogenes Capsulatus.—Dr. L. M. Loeb reported two cases of this infection. (1) A compound fracture of both bones of the forearm was followed by emphysema of the whole extremity in two days. Recovery took place uninterruptedly after shoulder amputation. (2) An abrasion of the outer side of the knee was followed in one day by phlegmonous emphysema of the entire leg and by constitutional symptoms of profound intoxication. Fifteen to twenty short incisions were made and drainage of bichloride dressings employed. In ten days gas bacilli and emphysema were gone and recovery interrupted only by a suppuration of the knee joint took place. This case again brings up to consideration the more conservative methods of treatment.

Dr. L. F. Barker spoke on the circumstances of the discovery of the organism. He urged early recognition of the disease and treatment.

Dr. H. Gideon Wells mentioned a case in which the emphysema was first noticed in the subcutaneous tissue of the left shoulder, extending some distance in the course of a few days. Because of the finding of pulmonary tuberculosis, it was suspected the emphysema was due to a tuberculous abscess connected with the chest wall which had ruptured. At autopsy this was found to be not the case, but due to the bacillus aerogenes capsulatus.

BOOK REVIEWS.

A TEXT-BOOK OF PHARMACOLOGY AND THERAPEUTICS, or the action of Drugs in Health and Disease. By ARTHUR R. CUSHNEY, M.A., M.D., Professor of Materia Medica in the University of Michigan. Second Edition. Lea Brothers & Co., Philadelphia and New York.

To cut loose from established precedent and to weed out superfluities and ruthlessly annihilate antique dogmas take a large amount of courage even in a text-book writer. It is because Dr. Cushney has had the courage of his convictions that, from certain standpoints, he has given us perhaps the best text-book on pharmacology that the English-speaking student can obtain.

It is for its distinctly modern tone that this text-book is to be praised. Recent workers in pharmo-dynamics have established many truths which are largely antagonistic to old-fashioned dicta and it is refreshing to read a work, which, while it does breathe an atmosphere of therapeutic pessimism, does so in no critical nihilistic sense, but in the desire to know truths that may serve as rational grounds for treatment. Hence he rejects many of the old teachings regarding the uses of alkalies and acids, the peculiar effects of bitters and many other routine procedures born of empiricism.

The workers in the field of theoretical chemistry, Nernst, Ostwald and others, have opened up a new vista in pharmaco-dynamics and Dr. Cushney has seen fit, and wisely, to incorporate in this work the teachings in this new field which offers much promise in future therapeutics. While much of it is as yet vague, and expressed therefore with great difficulty, in which regard our author has often not helped matters, yet the time is not far distant when the student of drug activities must thoroughly comprehend the theories of ionization and their significance in the giving of drugs for remedial purposes.

We would desire to see in Dr. Cushney's work a more intimate commingling of the results of the laboratory to bedside work, but if this is impossible, we believe that the practitioner who thoroughly understands drug-action, as outlined in a book of this kind, is infinitely better prepared to treat any condition than one whose brain is a storehouse of prescriptions.

BOOKS RECEIVED.

The MEDICAL NEWS *acknowledges the receipt of the following new publications. Reviews of those possessing special interest for the readers of the* MEDICAL NEWS *will shortly appear.*

A SYSTEM OF PRACTICAL THERAPEUTICS. Edited by Dr. H. A. HARE. Second Edition. Vol. II. Fevers, Diseases of Respiratory, Circulatory and Digestive Systems. Diseases of Kidneys, Nervous System and the Skin. 8vo, 926 pages. Lea Brothers & Co., Philadelphia and New York.

THE INTERNATIONAL MEDICAL ANNUAL. 1901. Nineteenth year. 8vo, 682 pages. E. B. Treat & Co., New York and Chicago.

FIRST AID TO THE INJURED AND AMBULANCE DRILL. By S. H. Drinkwater. 12mo, 104 pages. Illustrated. Aldine House, London.

A LABORATORY GUIDE IN ELEMENTARY BACTERIOLOGY. By Dr. W. D. Frost. 8vo, 205 pages. Published by the Author. Madison, Wisconsin. $1.60.

TWENTY-FIFTH ANNUAL REPORT OF THE MANAGERS AND OFFICERS OF THE NEW JERSEY STATE HOSPITAL AT MORRIS PLAINS. For the year ending Oct. 31, 1900.

SEVENTH ANNUAL REPORT OF THE BOARD OF MANAGERS OF THE CRAIG COLONY FOR EPILEPTICS.

NURSING, ETHICS FOR HOSPITAL AND PRIVATE USE. By Isabel Hampton Robb. Demi 8vo, 275 pages. J. B. Savage, Cleveland, Ohio. $2.00.

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THE MEDICAL NEWS.

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ORIGINAL ARTICLES.

ON THE MODERN TREATMENT OF ACUTE GONORRHEA.[1]

BY GEORGE KNOWLES SWINBURNE, M.D.,
OF NEW YORK;
SURGEON TO GOOD SAMARITAN HOSPITAL.

A PHYSICIAN, whose scientific attainments I have always held in the greatest respect, once said to me, "I have studied and treated gonorrhea for fifteen years and I feel to-day that I know less about that disease that I thought I did several years ago." It is in that same spirit that I stand before you to-night, and if I seem to you to be too strong an advocate in the use of certain remedies, I wish to say at the outset that I have seen cases which had been treated along these lines which were possessors of as inveterate conditions of urethral disease as any you will find among those treated by more conservative methods. Have some of those cases that must have wandered away from me to go to others been also found to be in such condition? I do not like to think so.

A man presented himself to the writer in the early part of the winter with a gonococcus-bearing discharge of more than two years' standing, the outcome of his first attack. It had been treated in the early stages by one of the ablest specialists and his assistants in a neighboring city. Frequent urethral irrigation with permanganate of potassium was the treatment. In due course of time he had a posterior urethritis followed by epididymitis, a length of time in bed, during which there was brief cessation of discharge. After he was up and about the discharge returned. More permanganate irrigations were used, which he said produced such pain that the strength of the solution had to be reduced to about 1-15,000 before it could be borne. He then visited another specialist, who changed the treatment, and in time there was apparently a complete cessation of discharge and elimination of the gonococci under careful use of protargol in varying strength. The patient then took a trip to Europe, during which time he paid no attention to himself, drank moderately of the wine of the country, but did notice that after indulgence in beer a rather uncomfortable moisture appeared each morning for a few days following. Several months after this he came to New York to settle in business and as time went on he found himself possessed of the constant morning drop and it was then that he came to consult the writer.

This same sequence of events can be duplicated by every method of treatment that has ever been tried or advocated—whether radical and local measures or conservative and internal medication have been used. I therefore hesitate to lay down any one method of treatment as the ideal one assuring success. There will always be a percentage of failures and those claiming the highest percentage of successes will only be looked upon as colossal distorters of the truth or as observers of an inferior order. The truth is that the treatment of this disorder is as much an art to be cultivated as is the treatment of disease in any other department of medicine or surgery.

You cannot take a set of human animals afflicted with the same disease, put them in at one end of a process of treatment, giving each the same dosage, same interval between each treatment and bring them all out of the other end cured. The time is too short to attempt to enumerate a few of the factors militating against success, such as powers of resistance of the patient, special virulence of the acquired germ, lapses in diet, attendance, etc., on the part of the patient; the physician not always alive to changes in the disease; not always keyed up to a keen sense of the patient's real condition; he may not do his work always with the same degree of skill. Why is the profession, why are we all, constantly trying new remedies which have recently come out, one after the other, with bewildering multiplicity? It is because all who are taking active part in treating this disease are alive to the many conditions to be filled and each new drug has something to recommend it, some improvement embodied in it. Some fill the conditions better than others, some disappoint utterly, theoretically ideal, practically worthless. These new silver salts, their object is to possess the greatest germicidal quality with the least irritating effect.

We are told by one set of observers, "Oh, yes, granted your remedies do this and that; you apparently eliminate the gonococci, but you only change them; they remain latent, but they are there, and your cases you call cured are capable sooner or later of infecting, or they will develop the signs of the sequelæ of gonorrhea." The answer to that is, give us the tests with which to prove the disease still present. As a matter of fact this is true in some instances, but because of this you must not say this is true in all instances. Extremists on the other side say, "Oh, yes, you treat your cases conservatively, but wait a few years till they marry and then see the devastation caused." True again in some instances, but surely not in all. To each I would say take a few lessons from your brother practitioner—he, if he has the experience, has something to teach you.

Every case is a law unto itself. I have seen

[1] Read before the New York Academy of Medicine, March 21, 1901.

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cases which have been treated carefully by internal medication, suffer the extreme pains which uncomplicated cases can suffer, quickly take a turn for the better and rapidly recover when treated locally, and I have seen cases treated locally with the greatest care and with the newest remedies and the gonococcus thrive upon the treatment. Therefore, each case has to be studied by itself and treated as indications arise by the light of previous experience, and if during the course of the disease the case comes to a standstill (I am talking of the acute disease) we should look to make some change in treatment. It seems to me that the wider one's experience with different remedies, the quicker one can pick the one fitted for the particular case.

The microscope is our greatest aid in the treatment of gonorrhea. Without it we cannot intelligently treat this disease. The day has gone by when all urethral discharges are treated alike and empirically. Not only is it the chief factor today in making the diagnosis, but also in determining the course of the treatment, and in acute cases it should be used at every visit.

The diagnosis of an ordinary acute gonorrhea is generally easy; in no case should the microscopic examination of the secretion be omitted, no matter how sure one may be of his diagnosis. The gonococcus is a diplococcus. Each half is kidney-shaped with the straight sides facing each other, separated by a minute space so that a single pair has the appearance of the flat surface of a coffee bean. They are arranged in pairs, fours, eights, etc., and appear in groups. One marked peculiarity is their arrangement within the pus cells; they may also be seen outside and between the pus cells and on or within the epithelial cells. They are best seen with an oil immersion lens. An easy method of finding them is by means of the methylene blue stain. A saturated solution of the methylene blue in absolute alcohol should be kept as a stock solution. A few drops of this added to an ounce of distilled water, enough to cause a dark blue color, will serve to make many stainings. A good stain may be obtained by making a thin smear of the secretion on a glass slide, drying it carefully over the alcohol flame, then covering the smear with a few drops of the aqueous blue solution, and then after a half minute washing the slide with a little plain water, dry and place a drop of cedar oil directly on the stained surface and examine under the immersion lens without the use of a cover glass.

For ordinary office work this method is found to be very satisfactory and after one has become familiar with the appearance of the field containing intracellular diplococci a more elaborate method will be found to be of use in special cases only. There are many other stains which may be of use, but this is the simplest and most valuable, at least in acute cases.

The so-called Gram-Roux method of staining is, of course, more accurate and sometimes will be found to be an important help, but where it is used for greater accuracy of diagnosis it is often necessary also to employ the culture test. This method, however, is of great use, especially in examinations of discharges from chronic gonorrhea or in the later stage of the acute form. These methods depend upon the greater ease with which the gonococcus gives up to its stain as compared with other diplococci which resemble it.

In carrying out the method the most careful attention to detail is necessary. The smear is first stained for two minutes with some stain in aniline water. The aniline water should be comparative fresh and is made by shaking distilled water with aniline oil and then filtering; to the aniline water thus made, enough saturated alcoholic solution of the desired stain, as gentian violet, is added to give it a fairly deep tinge. The surplus of stain is removed with blotting paper, but the slide should not be washed. The Lugol's or Gram's solution is then added to the smear for the same length of time as the gentian violet stain and dried with blotting paper without washing. This solution consists of iodine one part, iodide of potassium two parts, water 300 parts. It is this stain which fixes the aniline stain in the other micro-organisms. Absolute alcohol is then employed to decolorize the smear until to the naked eye it appears colorless. The specimen may then be washed. The counter stain used is generally Bismarck brown prepared as follows: Bismarck brown, 3 parts; water, 70 parts; alcohol, 30 parts. The specimen is stained with this for about three minutes, then washed, dried and examined under the oil immersion lens.

I have observed a few anomalies in cases coming very early and where I made a mistake in diagnosis for that reason. These all occurred in men who had had previous attacks, coming on the first day of their noting an increase or rather starting up of a new discharge. A number of micro-organisms would be found and no appearance of the gonococcus and the case pronounced to be not a gonorrhea and no immediate treatment instituted. On seeing these cases at a later period, one coming on the following day and another at an interval of three of four days, the discharge having increased in amount, it was found to contain a pure culture of gonococci. The knowledge that such a phenomenon may occur should prevent us from arriving at too hasty a conclusion.

Another way in which the finding of the microscope may be misinterpreted is illustrated by a case seen on the first day of the discharge by one physician, who found gonococci present in the discharge and furnished the patient with a solution of protargol to use himself during the day. This caused increase of the discharge and considerable discomfort on the part of the patient, and on his return the following day he was seen by another physician, owing to the illness of the first, who found that in the rather profuse purulent discharge no micro-organisms of any kind were present. Having no knowledge of the previous finding, he at once pronounced the case as not a gonorrhea, but a discharge due to a chemical irritation and advised the discontinuance of

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the treatment. The secretion quickly subsided and remained so for ten days, when it reappeared and at the same time was accompanied by symptoms of posterior urethritis, the patient having during that time indulged freely in alcoholics. A knowledge that oftentimes a single injection of protargol will cause a disappearance of the gonococci for twenty-four hours or even longer would have saved the second physician from making this mistake.

There is more than one way, then, to treat gonorrhea successfully in its acute stages, and methods which prove successful in the majority of cases in the hands of one man may prove disastrous when tried by another or attempted by the patient himself. Some general rules must be laid down as guides to follow and I propose to describe those methods which I rely upon for guidance.

In acute gonorrhea we have to deal with what is known as a self-limited disease, but which by reason of bad treatment or neglect or lack of constitutional vigor is capable of lasting indefinitely or setting up pathological lesions which will always leave their impress upon the organism. Though the disease may be self-limited in the sense that its most prominent symptom, a urethral discharge, definitely ceases, yet the etiological factor, the gonococcus, may remain indefinitely, thereby capable of infecting others unless means are taken to eradicate it; while in the absence of irritation the urethra will be immune in a sense to its own gonococci. In this condition it is, however, capable of receiving a fresh infection and undergoing a new typical attack. Under certain conditions, whether by the action of irritants or from overindulgence in either alcohol or coitus, a discharge may be set up in which these gonococci will be found in increasing numbers, but may quickly subside with only hygienic treatment though the contagious element still remains as before.

Some cases even when untreated or only indifferently treated will recover and the gonococcus will die out completely, but in many of these cases urethral lesions may be left behind which will form a focus for the infection of other pathogenic organisms which readily find their way into the anterior urethra.

The earlier the diagnosis of gonorrhea can be made and consequently treatment for its eradication be instituted, the quicker and more safely can the case be brought to a successful termination with less chance of accidental complications or the disease going on to a chronic process. Many physicians make the mistake of waiting in the presence of a slight urethral discharge for further development, instead of making an immediate microscopic examination to establish the diagnosis. Or the patient will try some remedies of his own or of a friend before presenting himself and valuable time is thus lost. Patients with their first attack are unsatisfactory often for another reason; they not only waste valuable time at the start, but often come with the idea that they are to be cured quickly, and at the first cessation of the discharge, stop coming, with the result that a fresh outbreak, indicating an infection deeper in the canal, springs up, which is far more difficult to eradicate than it would have been had they not ceased to attend, thus rendering their first visits absolutely useless.

All who have had any experience in the treatment of gonorrhea recognize that there is a vast difference between a case with its first attack and one which has had multiple attacks in their reaction under treatment. Nevertheless, in the treatment about to be described, when used at the earliest possible moment, there seems to be no difference in the reaction to treatment, unless it be that the average is rather better in those patients with their first attack. Though there may be difference of opinion as to the proper management of a case which has existed for several days, still in the light of past experience there is absolutely no doubt in my mind as to the desirability of instituting radical measures at once if the case has come early in the disease, and hours make a vast deal of difference at this time.

Hot irrigations have been found to be soothing to the inflamed urethral canal, but plain water is also irritating, therefore I have continued the use of permanganate, but in weaker solution than formerly. Undoubtedly other solutions may be found as good—perhaps a saline solution as given in a recent issue of the *Medical Record* in an excellent article by Dr. Woodruff. The heat undoubtedly has an effect on the gonococci in the deeper portion of the tissues. Irrigations have to be copious and frequent, but must be used by the physician himself. Beginning at 105° to 110° F. the heat can readily be carried up higher to 120° F. The test is the effect on the patients; it should be non-irritating.

Next, the germicide; in acute disease protargol in varying strength, from ½ per cent. to 2 per cent., held for ten minutes. As a beginning injection I now use a full urethral syringe, half fill it with a 2-per-cent. cocaine solution, and fill the remainder with 2-per-cent. protargol. At each successive visit the cocaine is diminished and protargol increased, until the full strength 2-per-cent. protargol is used, if it can be borne by the patient without undue irritation; but here again the strength is made according to its effect on the patient and the cocaine dropped entirely by the third or fourth visit.

The anterior urethra only is treated, as long as the anterior urethra only is affected. In cases seen early I try to have the treatment given for three or four days if necessary, twice a day. Sometimes only the first day is it necessary to come twice; sometimes if the patient can stand it and is willing to come twice a day for a longer period than four days, there will be benefit; the average is three to four days, then the rest of the first week's treatment is once a day.

During the second week successful cases come every other day; during the third week twice (there being no treatment between), the fourth

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week once, and at the end of the fifth week, if there has been no return of discharge or no gonococci can be found, the patient is given the beer test. He is to drink beer freely—sometimes I make them drink beer every day for a week. Then gonococci are sought for with the microscope, and I have had cases where cultures also were made.

Then—and even this I think important—the patient returns in four to six weeks for a final examination.

I have seen cases in which the gonococcus has disappeared absolutely after the first treatment and not been encountered again; others take a longer time before they disappear from the discharge, and some in which either after disappearing for a time they reappear or do not disappear at all. Still the patient has at no time suffered from the symptoms of the disease; he feels in every way as well as if he did not have the trouble. These cases have some infected follicles within the urethra, usually near the meatus. In other words the impression that I get from this course of treatment is that the disease is throttled at the outset if seen within twenty-four hours; if later, but still before acute symptoms come on, it is checked and kept confined to that portion of the canal already affected, from which it can be only more slowly dislodged.

If the case presents itself later than the third day the disease is practically in full blast, yet even then patients do better with this treatment than any other with which I am acquainted. These patients are frequently made comfortable during the remainder of the attack. Sometimes during treatment certain modifications are necessary. The patient may not be able to come so often, or when the time comes to lengthen the interval of treatment gonococci may return. The patient may then be instructed how to treat himself and be furnished with a ½- to 1-per-cent. solution of protargol to be used once or twice a day at home.

If the disease has made considerable progress before presenting, there is much room for difference of opinion as to whether we shall begin local treatment at once or wait for the decline. Personally I prefer always, if possible, to begin local treatment at no matter what the stage, for the course of the disease can be considerably modified by this treatment and it can be used even when complications are present, though one should know what the limitations are before using it. Of course, we know that the gonococci have penetrated the mucous membrane and only those on the surface are affected, yet all those on the surface of the urethra can be annihilated and those deeper in are removed as they are brought to the surface by the exudation of pus.

The secret of the good to be obtained is due to complete mastery of details and the utmost gentleness and patient deliberateness of technic.

Of course, cases will be found where these remedies seem absolutely impotent and we have to look for assistance from other remedies locally or internally. The diet must be watched carefully and the general health of the patient looked after. For instance, the balsams, if given understandingly, will be of use. I long ago gave up copaiba and cubebs; in selected cases santal oil, obtained from first-class manufacturers, is of assistance. It should be remembered that this is of assistance only and not curative in any sense of the word. As an adjuvant in selected cases it is of great use, and it should never be pushed to the physiological limit. Ten-minim doses of santal oil, three times daily, yield good results, but it should never be used indefinitely. If it does not give prompt action it should be discontinued. When the posterior urethra has become apparently infected a capsule containing one grain of methylene blue and four grains of boric acid has been found of use. The objection to them is the coloring of the urine, which can be kept off the underwear only with the greatest precaution. Salol and oil of gaultheria may also be mentioned. As soon as the posterior urethra has become invaded it is the practice of the writer to treat that locally also. To be of use treatment should be at least once daily, and the time for instituting treatment depends on the condition of the anterior urethra.

Much has been written, however, against irrigation into the bladder from the meatus without the intervention of the catheter. When this can be made without causing discomfort to the patient it is an excellent method, but where the slightest force is used it may be operative of a worse condition than the disease itself. This is due to the utter misconception of the proper manner of performing irrigation of the posterior urethra and bladder without a catheter. Many writers speak of forcing the compressor muscle by hydrostatic pressure. Of course this can be done, but with what an amount of discomfort and injury to the patient. To do this properly we should have the full coöperation of the patient. After the anterior urethra has been thoroughly irrigated the patient is told to urinate just as the fluid is entering the canal. He will thus relax the compressor muscle and while he is doing this the irrigating fluid is allowed to flow along the urethra and will run into the bladder. As soon as the patient has caught the trick the bladder can then be readily flushed from the meatus and urinated out. If the patient does not relax properly this practice should be omitted. The best way to learn this method is to practice upon chronic cases.

Of greater importance is the use of protargol in the posterior urethra. A new soft-rubber catheter, lubricated with glycerin or other soluble lubricant, is very gently passed down to the compressor muscle and filled with protargol to expel the air. No. 12 French is the best size and should have a wide mouth for receiving the point of the syringe. The catheter is then slipped very gently past the compressor muscle into the posterior urethra and from one-half to one ounce of protargol solution (gradually increasing to 2 per

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cent.) is slowly instilled into the bladder, being shortly after this urinated out. If the fluid returns about as it was instilled, it shows that the bladder empties itself. Some cases with posterior urethritis, however, do not completely empty the bladder. When this is found to be the case, before instilling the protargol the catheter is to be passed into the bladder with the utmost gentleness and the bladder emptied. The catheter may then be withdrawn from the posterior urethra; the protargol in it will be urinated out as before.

It is especially important that after the necessity for treatment has passed and the patient has gone through the tests that he be instructed to call for examination within six weeks after all treatment has ceased.

CHRONIC GONORRHEA.

BY JOHN VAN DER POEL, M.D.,
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THE field of chronic gonorrhea covers such a vast area that, with the time allotted in a discussion of this nature, it is obviously impossible to consider the subject in all its minute details, or to describe fully the many plans of treatment which have been evolved from time to time. I shall therefore only attempt to study briefly the principles which guide us, and to explain the application of them as far as possible. I must however beg indulgence if, in the following observations, I have not strictly confined myself to that portion of the general subject assigned me; but in order to consider intelligently the treatment, it is essential that we understand the origin, pathology and diagnosis of the disease, at least to a limited extent.

To give a strict definition of chronic gonorrhea would lead us over nearly the entire field of its pathology as well as symptoms; it might perhaps be described as one in which as a consequence of previous gonorrheal infection, there exists a secretion of the urethral mucous membrane and adnexa due to changes in the tissues, which secretion, containing gonococci, is composed of mucus, pus and epithelial cells manifesting itself (1) either by a drop of watery or muco-purulent fluid at the meatus some hours after urination, or upon pressure, the so-called "morning drop," which may be increased in amount and be present at any and all times; (2) by glueing of the lips of the meatus in case there is not sufficient discharge to form a drop; or, (3) simply by the presence of shreds in the urine, the so-called "clap-threads."

Although this is true in the large majority of cases, Hein[1] has shown that the changes in the urethra are present without the evidences just mentioned, but where we find gonococci in the urine, nevertheless.

[1] Read before the New York Academy of Medicine, March 21, 1901.

Not only this, but we know that gonococci may remain dormant in the prostate for months without any outward evidence, and subsequently can, as Frank[2] has shown, cause infection. The etiology must be sought for in the damage caused to the urethral mucous membrane and that of the adnexa by the acute process. The migration of gonococci into the tissues causes but a temporary diffuse inflammation, though as a consequence caused either by the gonococci (or their toxins, according to Friedländer, Christmas, and Wasserman) we subsequently find circumscribed changes in the mucous membrane which give us the picture of chronic gonorrhea. This is especially the case where the powers of resistance have been weakened, even when these cases have been "apparently" healed.

Either through indolence of the patient or on account of a too superfluous examination by the physician, or both, acute gonorrhea is often regarded as cured. If at this period excesses are indulged in, especially alcoholism or coitus, or should the patient suffer from repeated emissions, a return of the trouble is very probable; and the oftener these relapses the less intense but the more persistent they become, with finally a condition of chronic clap.

Frequent fresh infections whose course also becomes modified the oftener they occur, result in the same condition. Finger[3] charges that a chronic condition occurs especially when the acute process covers a large area of surface, *i.e.*, when there is both anterior and posterior infection, on account of the almost universal treatment with injections, without reference to the extent of the process. When the fluid from the ordinary hand injection stopped by the cut-off muscle does not reach the inflammatory process in the posterior urethra, it is thus not treated, and though it becomes less intense does not disappear, but spreads into the prostate by way of the ducts.

In this connection it is important to consider the frequency with which the prostate is involved and thus forms a constant focus for a chronic gonorrhea. That gonorrheal prostatitis is frequent is now admitted by most observers, and doubtless occurs much earlier than is usually thought to be the case. Frank,[4] in a paper read before the Genito-Urinary Section of the last International Medical Congress, stated that it is found involved in many cases as early as eight days after the first symptoms of gonorrhea, in spite of the fact that there may be no subjective symptoms, and in spite of the absolute clearness of the second portion of urine..

The pathological changes which have been demonstrated so well by Kollmann and Finger, consist of an "inflammatory connective tissue formation or hyperplasia," characterized (1) by round small-cell infiltration usually localized about the glands and lacunæ, representing when advanced the granulations seen in the endoscope; and (2) by an atrophy and shrinking of the new connective tissue with the formation of indura-

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tions. In other words, the two stages of a cirrhotic formation.

This process can be either superficial, a non-stricture forming scar; or deep, involving the cavernous tissues, a true cirrhotic formation or stricture. This is especially the case anteriorly; while posteriorly the same process extending in the submucous tissue, causes swelling of the caput gallinaginis and chronic prostatitis. Together with these changes we have a proliferation of the epithelium and transformation of the cylindrical into flat, both upon the surface and in the glands, with eventual obliteration and destruction of the latter (Finger).

These conditions can at any time be complicated, either by a relapse into the subacute form, or by a fresh infection.

As for the Diagnosis.—There are several important points to be cleared up before treatment can be commenced, (1) as to the character of the discharge; (2) its origin; and (3) the pathological conditions which cause it.

1. *Is the Discharge "Septic"?*—Do we find upon microscopical examination pus cells and gonococci? *Or* is it in the stage of "secondary infection" with other bacteria coming either from without or from the rectum! *Or* is it so-called "aseptic," of an epithelial nature, with perhaps a few leucocytes and fibrin, for as we have just seen masses of flat epithelium are found as a part of the chronic inflammation, and these together with the mucus from the urethral glands—especially after morning erections, form the "morning drop" or "threads."

2. *The Origin of the Discharge.*—To determine this the so-called Thompson "two glass test" is not sufficient as a rule, as a small amount of secretion may remain in the posterior urethra. and, not flowing into the bladder, does not contaminate the whole amount passed; but thus remaining would be washed out with the first gush of urine, as well as that in the anterior urethra. Hence, it is necessary to resort to the "irrigation test," the washing out of the anterior urethra by catheter before micturition, when if threads are still present, we know that they come from the posterior part. Still further, if the prostatic glands are inflamed, pus and comma-like plugs are often pressed out and appear with, and in, the last few drops of urine, or just after. This can be collected in another glass, the so-called "three glass test" which can be made with or without washing out the anterior urethra.

3. *The Pathological Changes Which Cause the Discharge, Are They Superficial or Deep?*—This can usually be demonstrated by the Otis urethrometer for the anterior urethra; the deeper form very early affecting the dilatability of the urethral walls, while this is not the case if the inflammation is superficial; but the findings of the urethrometer should always be confirmed by the endoscope. Deep chronic posterior disease is often characterized by those symptoms which we call "sexual neurasthenia," *i.e.*, the spermatorrhea of micturition and defecation, prostatorrhea if the prostatic ducts are involved, pain on ejaculation if the ejaculatory ducts are inflamed, precipitate ejaculations, poor erections and frequent emissions, together with a train of nervous phenomena and general depression. Examination of the prostate by rectum will reveal gross changes, and microscopical examination, with cultures of the excretion massaged, will confirm the diagnosis if successful, but will not disprove it if unsuccessful, as in old chronic cases gonococci are often difficult to demonstrate. It should not be overlooked, however, that different portions of the canal may be diseased at the same time, each process in a different stage, and demanding different forms of treatment.

Treatment.

1. *General.*—To lay down a hard and fast rule for the hygienic management of chronic gonorrhea would be impossible. So much depends upon the individual case, and the stage of his disease, that each to a certain extent, must be treated upon its own merits. In general we might say that it is practically that of the acute disease, except that greater freedom may be permitted as regards diet and exercise. Sexual excitement especially should be forbidden, excepting, perhaps, in certain very chronic cases in moderation, in order to allay and avoid congestion which is so detrimental to the furtherance of a cure.

The extremes may be pictured on the one hand in the so-called "sub-acute condition" with a muco-purulent discharge containing gonococci, where it is obvious that a relaxation of the rules necessary in the acute trouble—excepting in the most inflammatory stage—would be contra-indicated; and on the other hand in anemic, poorly-nourished and debilitated individuals, either originally so or as a result of a long course of local and internal treatment, with mental worry and consequent malnutrition, with a flabby or so-called "leaky condition" of the mucous membrane, where tonics, alcohol in moderation, exercise—excepting the horse and bicycle—and general constitutional stimulants will, in some cases be more effectual than any amount of local treatment. Between these two, each case must be judged upon its individual merits; the personal equation and the patient's experience often being of considerable assistance.

2. *Internal Treatment.*—The rules which guide us here are also very similar in principle to those of the acute stage: alkalies and diluents in case of scalding, if re-infection is present; oleoresins when this has subsided; and later, antiseptics, as salol and urotropin.

3. *Local Treatment.*—General rules to be observed in all cases are: (1) Care and conservatism in all procedures; (2) avoidance of over-instrumentation and injuries to the mucous membrane; (3) sufficient rest after passing through one system of treatment before beginning another in case the other is necessary; (4) regular and systematic use of the microscope in the con-

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trol of the treatment—this is most essential; (5) surgical cleanliness, and sterilization of all instruments.

Local Procedures.—These should be directed against (1) the *gonococci;* (2) *other bacteria* in case secondary infection is present; and, (3) *the anatomical lesions,* the results of the gonococci and their toxins with the restoration of the tissues to their normal condition as far as possible.

Before considering the purely chronic disease with localized lesions in contradistinction to the acute, where they are diffuse, it is first necessary to study that condition known as "subacute" directly from which the chronic is developed, and by which it can at any time be complicated. "This, a still more or less diffuse process, but with the localities which are to be the seat of chronic trouble in the first stage of inflammatory hyperplasia, is characterized by a still considerable number of pus cells, or many and heavy shreds in a cloudy urine" (Finger).

The points in particular where the tendency to localize is most marked are the "fossa navicularis" and the "bulb," especially the latter where pus is more prone to collect. Should there be any doubt as to the significance or morphology of any diplococci which may be found, the "Gram test" or method of staining is our best means of a differential diagnosis.

The best remedy at our disposal at the present day for destruction of the gonococci is protargol. The ordinary urethral syringe, of good service in some conditions, is not sufficient for a thorough washing, as with it a complete unfolding of the mucous membrane is scarcely possible, and much to be preferred is the system of irrigation with the fountain syringe, one point in the technic of which should be mentioned, *i.e.,* where the anterior urethra alone is being washed out in order that the folds may be obliterated, it is necessary not only to draw out the glans from the body, but the urethra should be thoroughly filled by alternately relaxing and pressing the beak of the instrument against the meatus.

If, however, the posterior urethra is also involved, the irrigation must reach the bladder, when it is better to avoid spasm of the cut-off muscle by the use of cocaine, 10 to 15 grams of a 1-150 solution held in the anterior urethra for four or five minutes, generally being sufficient to accomplish this purpose, when the irrigation can be made either with a fountain syringe, or with what I usually prefer, the large urethral syringe holding 150 grams, known as the "Ultzmann syringe." but now modified (by Janet, Frank and others) so that it is sterilizable, and to which blunt porcelain tips are fitted in order not to injure the mucous membrane.

The discharge of pus in the urine in considerable quantity, together with scalding, indicates that a considerable area of mucous membrane may be inflamed or irritable, and that urethral instrumentation should be avoided if possible—a rule in all stages of gonorrhea.

The strength of protargol employed is from ½ to 1½ per cent, for the anterior urethra, and from ½ to 1 per cent. for the posterior; the amount for the anterior, 500 to 1,000 grams; for the posterior, 200 to 500 grams. The injections are made daily, but I have found that they are most effectual when combined with hand injections of weak bichloride of mercury, from 1-30,000 to 1-15,000 made by the patient himself.

It is most important, however, that the capacity of a hand syringe be sufficient to thoroughly fill the anterior urethra; the small variety ordinarily employed being frequently useless, holding usually but 4 to 8 grams (1-2 drams), whereas they should hold 10 to 15 grams (3-4 drams). In prolonged cases with the lessening of the pus in the discharge, diminish the strength of the protargol, it previously perhaps having been carried to 1½ per cent. depending greatly upon the sensitiveness of the patient. Likewise with the frequency, with the lessening of the pus, they are given less frequently, every second, third or fourth day, and, finally, once a week; in this manner in a large number of cases, not only the discharge but the filaments in the urine disappear. The diminishing of the strength of the solutions and the lessening of the frequency of administration, are most important, as it must be remembered that a so-called "chemical catarrh," the result of injections, may be kept up where no gonococci or other bacteria are to be found.

Should the discharge or shreds which remain have been freed of gonococci after repeated examination, we are in what Janet[5] terms the "aseptic stage"; but should as is so frequently the case, other bacteria—staphylococci usually—be present, then we have the so-called "secondary infection."

When secondary infection is present I have found the best results attained from bichloride of mercury in the strengths just mentioned, or even slightly stronger, used as an irrigation by either of the two methods; but as with the protargol in the previous stage, after increasing the strength it should again be diminished as should also the frequency of the washings or irrigations. When other bacteria are no longer to be found, or have not been present, weak solutions of astringents, such as nitrate of silver, sulphate of zinc, or acetate of lead, may be used with the hand syringe; or weak bichloride as a douche. At this stage, a very excellent method is the washing out with the so-called "Ultzmann solution" either by the methods just mentioned; or, by injecting it into the bladder with a soft rubber catheter, allowing the patient to void the fluid afterward. This solution consists of one part each of zinc sulphate, alum, and carbolic acid, to 1,000 parts of water.

Should discharge or shreds still persist after a fair trial of the treatment thus outlined, a period of rest is indicated before instituting more localized procedures for the reason just mentioned.

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As to truly *chronic cases,* where the disease is distinctly localized, the plan of treatment to be developed should be guided by (1) the anatomical character—whether we have a superficial inflammation, or an infiltration of the deeper tissues—and (2) the localization of the process—whether in the anterior, or posterior urethra, or both.

The superficial circumscribed and succulent patches of mucous membrane can be treated by the application of concentrated astringents or caustics, localized as much as possible in order to bring about re-absorption. These can be carried to the diseased portions either (1) by the various so-called "capillary syringes," or by means of brushes with especially adapted instruments; (2) in the form of ointments and less solid fats by the instruments of Lallemand and Tomassoli; (3) with the aid of the endoscope by applicators with cotton.

The solutions employed in the various capillary syringes (either that of Guion,[6] the original Ultzmann instrument, Friedländer's combination of the two,[7] Oberländer's removable silver tipped instrument,[8] Bang's[9] syringe, which I prefer, with that of Guion; or the soft catheter employed by Taylor[10]) are usually nitrate of silver from ½ to 5 per cent., or sulphate of copper of about the same strength; the amount, from 2 to 10 minims; the frequency not oftener than three times a week, usually twice and sometimes but once, or less frequent, beginning with the weaker solutions, being guided by the sensations of the patient and the results of treatment; and never giving a second injection until the symptoms of irritation from the preceding have subsided. After a few weeks allow the patient to rest.

The employment of ointments or fats as vehicles for medication, although by some considered less sure and more uncertain as to results, is recommended by its advocates most hightly. For this purpose nitrate of silver can be used in the same strength as in the watery solutions made up with lanoline and sufficient olive oil to render it fluid at ordinary temperatures.

The use of the endoscope has occupied a very prominent position in modern therapeutics of the urethra; but it has its limitations and should not be used indiscriminately.

As a general rule we might say that being a procedure the action of which is local, its application should be limited to localized lesions—those macroscopically visible. I shall not enter into advantages and disadvantages of the various instruments, as with the most of the modern ones—especially those devised by our American colleagues—when in the hands of competent men, good work can be done, as also with the speculum of Tilden Brown which has proved itself most useful. As said, the field of usefulness of the endoscope is a limited one, but not so limited as some of its opponents would have us believe, though considerable experience and practice are necessary to be able to recognize the pathological from normal tissues. I can do no better than quote Klotz[11] as to its use when he says: "It is principally indicated in those superficial inflammations in which circumscribed patches of the mucous membrane, wherever located, have undergone certain changes which cannot be effected any more by the usual injection of astringents or parasiticides, because those remedies are powerless in the solutions which may be syringed into the urethra without injury to the healthy portions. By using the brush or applicator and cotton we may apply much stronger solutions or powder or even caustics to the diseased spots and to them alone."

The remedies which may be used are limited only by the Pharmacopœia, and it is difficult to explain why one will act well in one case and not in the other. With involvement of Morgagni's lacunæ and the glands of Littré, when the pits are depressed below the surface, the endoscope or speculum is invaluable, as lavage and injections will not reach them, and they may form foci of repeated infections. These may be treated with solutions with Kollmann's urethral syringe, with the knife, cautery or electrolysis.

Later on polypi and condylomatous growths—which are rather rare but sometimes the cause of a chronic discharge, or perhaps hemorrhage, are removed with the cautery or instruments especially devised, as that of Denos.[12]

The endoscope, however, as with other methods is not infallible. Generally speaking it should not be used until other means have failed us, unless required by special indication.

When the pathological changes have gone deeper than the surface, when examination shows the presence of an infiltration or perhaps already the formation of a cicatricial tissue, it is very evident that it is a thankless task to reach it by means of astringents applied superficially; for although we may get temporary results we do not get "at the bottom," so to speak, and slight causes may bring on a recurrence of the symptoms.

The principle to be employed in these conditions is "dilatation combined with irrigation with astringents or parasiticides." In its simplest form this can be carried out with a steel sound followed by injections or the use of the fountain syringe, remembering that when treating the anterior urethra alone, it is unnecessary to go into the prostatic urethra. In recent years this dilation with more complicated apparatus has been done, first by Oberländer[13] with his two-bladed instrument, and more recently with the Kollmann[14] four-bladed dilator, or Valentine's[15] recent modification of the latter. These are to be preferred to the sound in many cases, because the meatus is too small to pass a sufficiently large sound to exert the amount of dilation necessary; and because when dilating a special region, as the bulb, to some considerable extent, it would be needless and harmful to exert the same pressure over a too large area. Kollmann's irrigating dilator, where both steps can be done at once, will be found useful in many cases. The dilators are made in different shapes according to the anterior or posterior urethra, or both; and when in

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use are provided with a rubber covering (excepting the irrigating instrument) to prevent catching the mucous membrane while being closed. The first stages, however, can be accomplished more easily and with less danger with sounds, these being increased in size very gradually up to No. 30 or thereabouts, cutting the meatus if necessary beforehand, and after each sitting washing out the urethra with astringents as just mentioned. Dilatation with the dilator proper, must be done *gently, gradually* and *without force,* to avoid injuries and tears in the mucous membrane. It should not be applied oftener than once a week, Frank's rule where both anterior and posterior urethræ are at fault, to dilate them alternately every three days, being a good one. Contra-indicating symptoms are pain, hemorrhage and increased discharge. The length of the sittings is from five to twenty minutes *increasing but one number of the scale each time.*

As with the sounds, astringents are again used immediately following (excepting with the irrigating instrument) either weak, by irrigation, or concentrated, with the assistance of the endoscope, as recommended by Klotz; or, if posteriorly, with a capillary syringe. Pain can be greatly controlled with cocaine before operation. The astringents best employed are bichloride of mercury, silver, or the Ultzmann solution, preferably the former, to prevent secondary infection; and this should also be given the patient for use as hand injections between the sittings. A sudden increase of discharge containing gonococci indicates that we have probably ruptured an encapsulated gland containing gonorrheal pus, or perhaps a re-growth even from a single coccus causing a re-infection, the first, practically an advantage to have gotten rid of another focus.

Never use the dilator as long as gonococci are present, excepting, as Bierhoff[16] says, "in those cases in which endoscopy has shown that the glands and crypts and tissues immediately surrounding them are the seat of the trouble, and then only with the irrigating dilator."

Nor should it be used when other bacilli are present. In superficial chronic posterior urethritis, after the gonococci have been gotten rid of, it is useful in removing the infiltrate; but, as Bierhoff again states, "as in over 90 per cent. of chronic disease of this region the focus of disease is in the prostate, dilation is not only useless but positively harmful." Valentine's[23] statement "that all cases of chronic gonorrhea are not cured by it, but that a large number being due to infiltration of the crypts, glands and surrounding tissues, either yield or are greatly benefited by it" I believe true.

Chronic inflammation of the posterior urethra on account of the anatomical character of that region, unfortunately does not, as a rule, remain superficial; the mucous membrane instead of being richly supplied with glands and lacunæ, is in close anatomical connection with the prostate, and it is but a short distance by way of the ducts to the glandular structure itself. Frank[17] states, that in 631 cases of gonorrheal urethritis, the posterior urethra was involved 210 times, or 32¼ per cent.—nearly one-third—though a number of these had previously suffered from posterior disease. In all the 210 cases the prostate was diseased, *i.e.,* 100 per cent.; and in the 210 gonococci were found 179 times, other bacteria 20 times, and aseptic secretion with leucocytes 11 times.

Personally, I am not prepared to offer any statistics that would tend either to confirm or deny these figures, but am convinced by recent observation that involvement of the prostate is of very frequent occurrence, and in the majority of which cases gonococci were demonstrated in the expressed fluid.

As irrigations and instillations will not reach the gonococci when in the prostate, it is evident that we must resort to other means, and this is primarily accomplished by prostatic massage followed by washing out of the bladder and posterior urethra. More recently faradism has been added to the massage, instruments for which have been devised by Hogge,[18] Janet,[19] Frank,[20], Guiteras,[21] and Freudenberg,[22] the latter being an arrangement by which the electricity is passed through the finger of the operator as one pole, which at the same time accomplishes the massage. If the mouths of the glands and ducts have become constricted by surrounding inflammation, and plugged with inflammatory products causing a cystic condition of the glands themselves, the results of treatment will be less rapid. Until we have, however, after repeated trials been unable to demonstrate the presence of gonococci in the expressed secretion, we are not justified in concluding that this part of the genito-urinary apparatus can be eliminated. Care and conservatism in performing the massage, with sufficient intervals between the sittings, are to be borne in mind. Acute inflammations and abscess are naturally contra-indications to this form of treatment.

That a large number of chronic gonorrheas, speaking generally, remain uncured, is undoubted; some of these may be explained by the indolence or the discouragement of the patient, others by want of care or understanding on the part of the physician, others by reason of constant re-infection, either from the wife or mistress, and still others from no tangible cause, all gonococci having "apparently" been eliminated.

I have not been able to consider every hypothetical case of this extremely important disease, the principles govering the treatment of which, if more generally comprehended by the profession, would, I believe, do much toward the limitation of infection in the opposite sex, and the consequent long train of gynecological disturbances and oftentimes sterility.

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ON GONORRHEAL CONJUNCTIVITIS.[1]

BY WARD A. HOLDEN, A.M., M.D.,
OF NEW YORK.

THE treatment of gonorrhea of the conjunctiva has followed the swing of the pendulum like the treatment of gonorrhea of the urethra. A generation ago strong solutions of nitrate of silver were applied to the conjunctiva from the very incipiency of the disease. Then a reaction took place in many quarters and the disease in the acute stage was treated exclusively with cold applications and irrigation with mild antiseptic solutions. Recently there has been a general return to the use of the astringent and coccus-destroying silver preparations, but in the place of the caustic and irritating nitrate, which is so painful when applied to the conjunctiva, blander preparations, such as protargol and argentamin, are now very generally used.

The course of untreated gonorrheal conjunctivitis and the complications to which it often leads may be described in a few words. From one to four days after infection the first signs manifest themselves in a swelling of the lids and, in adults, a thin, watery discharge. The lids then continue to swell until they may become brawny, when eversion is impossible. The conjunctiva of the eyeball, too, becomes edematous, flakes of mucus appear in the discharge, and the patient experiences considerable discomfort. A day or two later, whether in the new-born or the adult, a thick creamy purulent discharge fills the conjunctival sac, floods the cornea, and pours out through the aperture of the lids. At this early stage the nutrition of the cornea is interfered with and it sometimes sloughs, breaking down, it may be, in the course of a few hours, as it does sometimes in the keratomalacia of poorly-nourished infants suffering from fatal diarrhea. After the purulent discharge is established the swelling and tension of the lids diminish, but the conjunctiva remains swollen, and velvety from a hypertrophy of its papillæ. The parenchyma of the cornea may now become diffusely hazy or superficial ulcers may appear which rapidly extend deep and often lead to perforation of the cornea with all its disastrous consequences. The purulent discharge gradually decreases and in the course of several weeks may cease, but a chronic papillary hypertrophy of the conjunctiva still persists.

The purposes of treatment are threefold, the checking of a contagious discharge, the prevention of complications on the part of the cornea, and the avoidance of infection of the second eye if this is still healthy. The ideal treatment, if it can be carried out, is as follows: When a patient with suspected gonorrheal conjunctivitis is first seen, the discharge should be examined microscopically. Frequently a man with a urethral discharge acquires an innocent conjunctivitis caused by the Weeks bacillus or the pneumococcus, and if the benign nature of such an inflammation is not determined at the outset much needless anxiety may be suffered. At the very beginning of the disease a single application of nitrate of silver, two per cent., or of protargol, forty per cent., may modify favorably its subsequent course. The chief indication, however, in the early stages is cold. The patient is kept in bed, and patches of lint, absorbent cotton, or folded linen that have lain on a lump of ice are applied to the closed lids, and changed every minute or two, day and night continuously. This is most essential during the stage of extreme swelling of the lids. Besides this, the conjunctival sac is irrigated every few minutes, or as often as is necessary to keep the eye free from secretion, with a warm saturated solution of boric acid or a 1-2000 solution of permanganate of potassium. These solutions are dripped into the eye from a pledget of cotton without the use of any instruments that might abrade the cornea. In infants, too much cold may injure the cornea and hence the iced applications are changed less frequently or used less continuously. The cornea is inspected at least once a day and at the first sign of haziness the cold applications are decreased or even warm ones may be substituted and atropine is instilled.

When one eye only is affected the other is protected from infection by a transparent shield attached with adhesive plaster or by an ordinary dressing which is rendered impenetrable to pus by gumming down its edges with collodion.

If the attending physician elects to use nitrate of silver this is brushed over the conjunctiva of the everted lids, in a one- or two-per-cent. solution, once or at the most twice daily as soon as the swelling has diminished sufficiently to allow the lids to be everted. This is continued until the discharge is checked, when a weaker solution may be used for the persisting papillary hypertrophy.

The manner of using protargol is not yet conventional and uniform. It may be employed,

[1] Read before the New York Academy of Medicine, March 21, 1901.

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however, from the beginning of the disease without causing the irritation and pain that follow the use of silver. Some ophthalmologists apply a twenty- to forty-per-cent. solution to the everted lids once or twice in the twenty-four hours. Others apply a five-per-cent. solution once daily and have a three-per-cent. solution dropped into the eye every four hours, and still others have a five-per-cent. solution dropped into the eye three times daily. Some who have used weak solutions only are so skeptical as to declare that, while protargol is unirritating, it is also inefficacious, but recent comparative statistics seem to show that if used in sufficient strength protargol cures the disease in a shorter time than silver and with less discomfort.

When ulcers of the cornea develop and appear to be infected they are touched with tincture of iodine, carbolic acid, or the actual cautery; and perforation of the cornea with prolapse of the iris is treated as are cases of perforating ulcer from other causes.

Obstetricians and midwives, unfortunately, do not always take ophthalmia neonatorum seriously. Furthermore, the Credé method of dropping a two-per-cent. solution of nitrate of silver into the eyes of the new-born is not always a preventive. Many of these little patients are brought to us with the cornea already affected, and such eyes frequently are lost. Only a few days ago, for example, a mother who had not been warned of the gravity of the disease brought her neglected infant two weeks old to the Vanderbilt Clinic with the cornea of each eye wholly sloughed away, which, of course, means permanent blindness that might have been prevented. And such cases are not uncommon.

Unfortunately, too, many patients with gonorrheal conjunctivitis cannot be treated properly because of the lack, long deprecated, of a special public hospital in New York for contagious diseases of the eye. A patient with gonorrheal conjunctivitis requires nursing night and day; he should not be kept in a ward with ordinary patients, and his nurse should not be allowed to attend other patients. Therefore, most hospitals admit these patients under protest and with restrictions, if at all, and thus many of the patients who apply at the dispensary must be treated unsatisfactorily as out-patients. Patients may be sent, it is true, to the City Hospital on Blackwell's Island if they are willing to go there, and a special ward for contagious diseases is in operation at the Manhattan Eye and Ear Hospital, while a new detached pavilion for contagious diseases of the eye, which is a model of its kind, has just been opened at the New York Eye and Ear Infirmary. Still, at present, it is clear that conditions are not as we would wish them, and we feel sure that if patients with gonorrheal conjunctivitis were always sent to us before corneal complications had arisen, and if there were always convenient hospital facilities for the care of serious cases and such as cannot be treated properly at home, the number of the dependent blind would be greatly reduced, and the enormous expense of suporting them throughout their lives in an asylum would be in no small degree curtailed.

The establishment of a public hospital in New York for the treatment of contagious diseases of the eye is most desirable as a purely economic measure, to say nothing of its humanitarian features. But, economically, it is even more desirable that all who attend women in labor should realize the importance of preventing gonorrheal conjunctivitis by disinfecting the eyes of the new-born, and when, nothwithstanding, exceptional cases do develop, of having them treated with intelligence and without delay.

TREATMENT OF GONORRHEAL STRICTURE OF THE URETHRA.[1]

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THE treatment of gonorrheal stricture varies greatly in different cases, depending both upon its situation in the canal, and whether it be soft and yielding, or dense and fibrous in character; therefore, before adopting any plan of treatment, the surgeon must first ascertain by careful urethral exploration, the location, consistence, extent and caliber of the contraction and also, from a urinary examination, the condition of the kidneys, and at the same time the extent and severity of the urethral and bladder inflammation, which latter points are of paramount importance in regard to the patient's ultimate cure, and which, strange to say, are frequently ignored or overlooked by the operator, who apparently considers that dilatation or cutting is all that is really essential, and that a chronic urethritis or urethrocystitis is of little or no importance. The condition of the prostate gland, the seminal vesicles, and in fact all of the structures opening into the urethra must be ascertained, and appropriate treatment instituted if diseased conditions are found.

As a broad general rule, it may be safely stated that the best routine treatment for recent and even fairly-recent cases of gonorrheal stricture, is careful and gradual dilatation, combined with instillations or irrigations, and appropriate diet and internal medication to render the urine bland and non-irritating; if gradual dilatation fails, or for any reason cannot be employed, we then resort to one of the cutting operations about to be described, being guided in our choice of procedure by the location and extent of the contraction, which is readily ascertained by the *bougie à boule*.

For clearness and conciseness of description we will first consider stricture of the meatus; second, stricture of the pendulous urethra, and, third, stricture of the bulbous portion and at the bulbo-membranous junction.

Stricture of the Meatus.—As a general rule

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stricture of or just within the meatus does not yield to dilatation and must therefore be incised by meatotomy in the following manner: The patient having urinated, the external genitals are thoroughly cleansed, as is also the anterior portion of the urethra by irrigations of boric-acid or salt solution and the parts surrounded with sterile towels. Local anesthesia is produced by injecting a little cocaine solution into the fossa navicularis; the contracted meatus is then slowly incised with a straight, blunt bistoury downward on its floor and directly in the median line up to about No. 28 or No. 32 of the French scale; according to the requirements of each individual case; contractions in the fossa navicularis are dealt with in the same manner, except that an incision may have to be made in the median line of the roof, as well as in the floor of the canal. The urethra is then irrigated, and a full-size sound passed beyond the wound. A snug dressing of sterile gauze prevents subsequent bleeding from the little incision, which should be kept open and made to heal from the bottom, by the daily passage of full-sized sounds.

Stricture of the Pendulous Urethra.—If the contraction is soft and yielding it should always be treated by gradual dilatation with soft bougies until we have reached about No. 18 of the French scale, when steel sounds are to be substituted. As a general rule it is best to practise dilatation every fifth or seventh day, leaving the instrument in place for several minutes in order to exert pressure and dilatation on the stenosed and thickened urethral walls; these patients should also have instillations or irrigations of silver nitrate which are of the greatest value in bringing about a healthy condition of the infiltrated urethral and peri-urethral tissues.

If, after a careful trial, gradual dilatation fails, the stricture must then be cut by internal urethrotomy in the following manner: The patient, having urinated, is anesthetized and the external genitals and urethra prepared for operation in the usual manner. If the stricture is fairly near the meatus it can be cut with a straight, blunt bistoury, but, if further down the canal, with any good urethrotome, according to the size or caliber of the constriction and also the surgeon's personal preference for any special instrument; the important point to remember in this operation is that the cutting instrument should always be held firmly in the median line, and the penis pulled out over it, and well on the stretch, so that the incision will be as nearly as possible in the middle line of the roof of the canal, which should be cut up to about No. 25 or 30 of the French scale, rarely higher. A full-sized sound or *bougie à boule* is now passed to see that all is clear and the urethra thoroughly irrigated with warm boric-acid solution, several ounces of which are thrown into the bladder and left there, so that the first urine passed will be fairly well diluted. The subsequent treatment consists in the frequent passage of full-sized sounds and the employment of irrigations or instillations, according to the requirements of the case, until the urine is clear and the urethra taking reasonably large instruments with ease, when the intervals are made much longer.

If after the operation the patient shows any signs of urethral fever, all of the urine must be carefully drawn with sterile catheters, and the bladder and urethra irrigated with warm sterile and non-irritating solutions, and urotropin, or boric acid, administered by the mouth in full dose.

Strictures in the Bulbous Urethra, and at the Bulbo-membranous Junction.—Strictures in these regions, as in the penile urethra, should if possible be treated by gradual dilation and local medication; if, however, they are fibrous, dense and unyielding, then external urethortomy or perineal section is the operation of choice, as by it the contraction is thoroughly incised and the bladder and bulbous urethra are freely drained, thus obviating the danger of urinary infection; the same end can also be accomplished by first cutting the stricture from within (internal urethrotomy) and then doing a small external urethrotomy for drainage; personally, however, I see no advantage in this double procedure over an ordinary external urethrotomy in which the stricture is cut and the bulb and bladder drained at the same time.

External urethrotomy having been decided on, the patient is kept quiet for a day or so before the operation, and put on a light nourishing diet with perhaps strychnine and quinine in full doses. Alcohol must be stopped or taken in great moderation, and the urine rendered bland and sweet by plenty of water and proper internal medication. The urethra and, if possible, the bladder should be irrigated daily with boric-acid or mild silver solutions. The bowels must be kept open and, on the morning of the operation, the rectum emptied by means of an enema.

Operation.—The external genitals and perineum having been properly prepared, the patient is etherized and placed in the lithotomy position. The urethra and, if possible, the bladder are irrigated with boric-acid or salt solution, and the surrounding parts covered with sterile towels. If possible a tunneled sound, or, that failing, a filiform bougie is passed through the stricture into the bladder and held there by an assistant who at the same time retracts the scrotum. An incision is then made in the median line of the perineum down to the urethra, which is opened on the guide by a single clean cut, and all of the stricture tissue carefully incised not only on the floor but also on the roof of the canal. The index finger is now passed into the perineal wound and backward on the roof of the canal into the bladder, as on its way it readily detects any bands or

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masses that have not been thoroughly divided. The dilatation of the posterior urethra by the index finger prevents in a great measure post-operative tenesmus with painful efforts to expel the tube. The perineal operation being completed and bleeding controlled, a full-sized sound should be passed from the meatus into the bladder in order to ascertain that the whole length of the urethra is clear; if obstructions exist, they may be removed by meatotomy, internal urethrotomy, or post-operative dilatation.

A large soft-rubber perineal tube is introduced into the bladder just far enough to allow the urine to drain freely, and secured in place by a heavy silk suture passed directly through it and both edges of the wound, which is then lightly packed with gauze, and the suture tied. The bladder is then irrigated and partially filled with boric-acid solution and the tube clamped until the patient is put to bed, when it is attached to the usual siphon apparatus, and an opium suppository administered.

On the second day after the operation the tube is taken out, washed and replaced; it is removed permanently on the fourth or fifth day and the patient allowed to be up and about and passing his urine both by the urethra and the perineal incision. In the majority of cases all of the urine is passed by the urethra in about one week after the removal of the tube, although in some the urethral wound remains patulous for a longer period.

When the tube is first taken out for cleaning, a medium-sized sound is passed to the bladder; this is repeated regularly every second or third day, until the perineal wound is cicatrized, and the urethra taking a No. 28 to 31 French with ease, according to the case, when the intervals are made longer. After the sound is removed the tube is replaced and the bladder and urethra irrigated with boric-acid solution, and on the alternate days, if indicated, with a mild solution of nitrate of silver. The perineal wound should be inspected every day to see that it is healing solidly from the bottom by firm, healthy granulations. When the perineal wound is cicatrized, the urethra taking a full-sized sound with ease and the urethrocystitis improving, the patient must be made to understand clearly that the operation has not cured his stricture, but merely divided it, and that he must continue to have sounds passed at long intervals (once or twice a year) for the remainder of his life; also that he must not stop bladder or urethral medication until urination is normal and the urine practically free from tissue elements.

If at the time of the operation it is found impossible to pass any instrument through the stricture, a grooved staff or tunneled sound may be passed down to the anterior face of the contraction and the urethra opened on the groove of the instrument just in front of the stricture; the cut edges of the urethral wound being separated by long silk ligatures passed through them. The staff is now withdrawn and the ligatures retracted, which gives the operator a clear view of the anterior face of the stricture, which is carefully examined for its opening by means of a fine grooved director, or filiform which is passed through it into the bladder. The stricture is then divided with a small bistoury, and a full-sized sound passed from the meatus.

If, however, the opening in the stricture cannot be found the surgeon will have to complete the operation without a guide, cutting through the stricture slowly and carefully in the median line with perhaps the left index finger in the rectum, which keeps the operator informed as to the proximity of the gut and also the position of the apex of the prostate gland. The mucous membrane of the roof of the urethra is also a serviceable guide, as it can be plainly seen and felt.

In those rare and exceptional cases which will not admit of the passage of any instrument through the anterior urethra, we are compelled to do an external urethrotomy without a guide, or, more correctly speaking, a true perineal section. The patient being in the lithotomy position, the left index finger is introduced into the rectum and its tip kept in contact with the apex of the prostate, the operator cutting down to the urethra by careful dissection, as in an external urethrotomy. The canal having been found and opened, the index finger is passed through the perineal wound into the bladder, and all of the stricture tissue thoroughly divided. In those old and neglected cases of gonorrheal stricture, in which the perineum is riddled with urinary fistulæ and sinuses, and in which the urethra is converted into a fibrous cord, and cannot be entered by the perineal route, the surgeon may resort to retrograde catheterization, through a small suprapubic incision. These advanced cases, however, are seldom met with at the present time, except in hospital practice, and then but rarely. The drainage and the subsequent treatment in these latter cases are precisely the same as described for simple external urethrotomy with a guide.

Miscellaneous Methods of Treatment.—Under miscellaneous methods of treatment may be mentioned rapid dilatation, continuous dilatation, divulsion, electrolysis, and urethrectomy.

If the stricture will admit of the passage of a filiform, it may be left in place as a guide, and tunneled sounds of increasing sizes passed over it through the stricture, which can in this manner be *rapidly dilated* at one sitting provided it is not too fibrous. This method of treatment is attended with risk, and should therefore never be employed except in an emergency, and unless the patient can remain in bed and be under the surgeon's personal observation.

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Any instrument, no matter how small, that has been passed through a tight stricture, may be retained for a few hours, or even a day or so, as by its *continuous dilation* it frequently acts most satisfactorily on the thickened area and is therefore of service in certain selected cases.

The treatment of stricture by *divulsion* or *rupture* with especially constructed instruments is, to say the least, bad surgery, and is too rough, dangerous and inexact ever to be advised or employed.

As *electrolysis* is only of questionable service in strictures of the soft variety, it is merely mentioned to be condemned, as in this variety of cases most satisfactory results are obtained by gradual dilatation and urethral medication. It has practically no effect whatever upon dense fibrous strictures which always demand free incision either from within or without.

By *urethrectomy*, the stricture tissue is excised or resected at the time of the external urethrotomy or perineal section, and a new urethra built up and around a retained soft rubber catheter or tube. This method, if employed at all, should be reserved for those cases in which there is a great deal of localized and dense fibrous tissue about the canal.

THE TREATMENT OF THE COMPLICATIONS OF ACUTE GONORRHEAL POSTERIOR URETHRITIS.[1]

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OF the topic for the evening the division that has been assigned to me by the courtesy of our President will admit of subdivision into local complications and remote or general complications. The local complications are: Urethrocystitis, cystitis, ureteritis, pyelitis, pyonephrosis, funiculitis, epididymitis, prostatitis and seminal vesiculitis. The general complications include: Arthritis, endocarditis, pericarditis, pleuritis, meningitis, iritis and certain rarer inflammatory affections of the eye; but the limitations prescribed for this paper require that of these only arthritis, otherwise gonorrheal rheumatism, be considered, it being the most common manifestation of the systemic infection.

The local complications, through continuity of tissue, are peculiarly interdependent. Certain ones are intimately so and, in consequence, scarcely admit of distinction as entities. Hence it is convenient to take them up in the order of anatomical sequence, though thereby the most frequent be brought into apposition with the most infrequent.

Before considering the treatment of each in turn it will be well to enumerate certain essentials common to the treatment of all. The underlying physiological principle is: The avoidance of whatever directly or indirectly, by irritation or stimulation, excites in the genito-urinary system hyperemia or congestion. Therefore abstinence from sexual excitement, passive as well as active, recumbency, bland and antiseptic urine, regular, easy stools, an exclusive milk diet, abstinence from alcohol, tobacco and coffee, and no instrumentation nor irrigations, are the ideal fulfilments of the primary indication. So far as possible they should be realized, but the law of compromise cannot be set aside. Antiseptic urine can be approximated only; the exclusive milk diet may have to give way to a mixed fluid diet; alcohol, tobacco and coffee—any one or all three—may have to be reduced before they can be removed, depending upon the patient's dependence upon them.

As to instrumentation and irrigation, whether or not the gonococcus, unaided by some other form of infection, is capable of invading the genito-urinary organs beyond the confines of the urethra, authorities are not agreed; but they are agreed that the traumatism of instrumentation favors each and every infection, causing as it does abrasions and congestion if no higher grade of inflammation. Therefore instrumentation is deprecated, and when, for the relief of the patient's sufferings, surgical intervention by instrumentation or otherwise becomes imperative, any crude or coarse manipulation is a perversion of the last resource. Reduced to rule, the more skilful and the more conservative the local treatment of any infected region of the genito-urinary tract, the greater the prophylaxis for the endangered contiguous region. Finally, throughout the course of any complication, the patient's general health and vital resistance should be maintained as high as possible.

Urethrocystitis implies that the trigonum has become involved by extension of the inflammatory process from the posterior urethra. The term is not in common use, the symptoms and treatment of posterior urethritis and this complication in their acute stage being so nearly identical that they rarely are differentiated in the average clinical history.

In the treatment the chief indication is bland and antiseptic urine. This is met by a milk diet, water between meals, and the so-called urinary antiseptics. If the patient cannot tolerate an exclusive milk diet a demulcent drink offers a compromise. The quantity of this and of water to be taken as a diluent depends upon the quality and reaction of the urine, and the severity of the tenesmus in the given case. The object is to render the urine bland without unnecessarily augmenting the quantity, whereby the patient's urinations would be multiplied and his sufferings increased. The question of giving alkaline

[1] Read before the New York Academy of Medicine, March 21, 1901.

diuretics will arise. As a rule they are not necessary. A strongly alkaline urine is not demanded by the indications. On the contrary, it is distinctly contra-indicated, because it invites infection of the bladder, especially if there is any retention, and, secondly, because it antagonizes those most valuable urinary antiseptics—urotropin and cystogen. The best substitute for either is salol in full dose.

In spite of the bland urine the tenesmus may be so severe as to require anodynes. Hyoscyamus, belladonna or atropine, and morphine, by rectum, by mouth or hypodermatically, are the only positive ones. Upon the too-ready use of the last-named should attach the restriction that with a *neglected* urethrocystitis complicated by a stricture not infrequently begins the habitual use of the drug.

As to local treatment, a moderate number of cases do well without any during the acute stage, aside from hot sitz-baths and fomentations, the general treatment sufficing to carry them through comfortably. In a second class of cases the severity of the symptoms will suggest the use of rectal irrigations of normal salt solution in temperature from 105° to 120° F., by means of the Kemp, the Guiteras, or Chetwood tube, once, twice or three times a day. The teasing desire to urinate and the tenesmus often are lessened by this means. A third class, that in which there are extreme frequency, urgency and tenesmus with bloody urine—a few drops of which are squeezed out every ten or fifteen minutes—demands in addition something more radical. The patient's suffering makes instrumentation imperative, there being no alternative. After washing the glans penis and anesthetizing the penile urethra, a smooth, blunt, sterile soft-rubber catheter, lubricated with lubrichondrin (glycerin irritates some urethræ), is passed into the bladder slowly and with the utmost gentleness. The obstructing spasm that usually under these conditions is encountered in the membranous urethra will yield after a few minutes of continued gentle pressure, aided if necessary by the instillation through the catheter of a two-per-cent. solution of cocaine. According to the tolerance of the inflamed and hypersensitive tissues, from a few minims to a dram or two of a warm solution of silver nitrate, one-half to one grain to the ounce, are now slowly instilled into the bladder, the catheter withdrawn and the patient allowed to void the solution. In the majority of cases the relief that follows the temporary aggravation of the symptoms is surprising. The instillation may be repeated after forty-eight hours if the first gave relief and if the symptoms return; but if it did not give satisfactory relief, a solution of protargol, from one to eight per cent., may be tried instead of silver nitrate.

Two observations should be added here: (1) From the results obtained by the use of from one- to eight-per-cent. solutions of protargol in the subacute and chronic stages of urethrocystitis, it is fair to assume that the same solutions would be of benefit in the acute stage, thus avoiding the preliminary irritation of silver nitrate. As yet I have not had an opportunity to test the assumption. The beneficent effect of the one-per-cent. solution of protargol used as a hand-injection in acute gonorrheal anterior urethritis is not better manifested than in the distinctly infrequent occurrence of the severe grades of posterior urethritis and consequent urethrocystitis. (2) Irrigation of the bladder from the meatus with a warm solution of boric acid, borolyptol, potassium permanganate or mercuric bichloride in proper strength sometimes gives satisfactory relief when it can be performed; but to most patients with acute urethritis it is a distressingly painful procedure and hence should not be performed; in others, because the patient cannot relax his vesical sphincter, the irrigation cannot be performed. Moreover, the danger of causing epididymitis by such irrigation is great, especially if antecedent attacks of posterior urethritis have left the ejaculatory ducts rigid with inflammatory deposit, and, as a consequence, their mouths more or less patent. Finally, irrigation of the bladder from the meatus is dangerous under the conditions given, it having been demonstrated that rapid filling of the bladder to its point of toleration under pressure when tenesmus is present is very liable to drive some of the fluid into the ureters, thereby exposing them to infection either directly by contact or indirectly through the induced hyperemia.

The course of urethrocystitis and its prognosis are those of posterior urethritis. It tends to chronicity. Ulceration from this cause is rare.

Cystitis, meaning thereby acute general cystitis, occurs infrequently as a complication of gonorrheal posterior urethritis. The greater constitutional disturbance in the form of fever and the larger area of hypogastric pain and tenderness serve to differentiate it from urethrocystitis and to offer the few additional indications for purely medical treatment—the exhibition of antipyretics, as well as sedatives and anodynes, and the more liberal employment of fomentations with counterirritants.

The surgical treatment is that of urethrocystitis, slightly modified. When to resort to it must be determined by the symptoms. If possible it should be postponed until the subacute stage, but at whatever stage employed the decision as to the solution for instillation should be in favor of the milder, if not the mildest, for two reasons, first, that vesical congestion be not unwarrantably increased; second, that the instillations may be repeated in the form of small irrigations to wash away the accumulated pus and *débris* of the inflammatory process before a final instillation is made to be voided by the patient after the catheter has been withdrawn. The solution recommended is one-per-cent. protagol; it combines a maximum specific effect upon the gonococcus with a minimum of irritation. The solution must be introduced into the bladder very slowly and the quantity must be small—an ounce

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or less. Here, as in urethrocystitis, forcible irrigation is overzealous treatment and is to be condemned on the grounds already given.

Ureteritis and pyelitis are so intimately interdependent and the symptoms of one so blend with those of the others that they must be considered as one. They are serious complications; by them the integrity of the kidney and the life of the patient are endangered. Hence proper treatment of the antecedent and associated cystitis has an important prophylactic value. Fortunately the complication is rare.

Like the bladder, the ureter and pelvis of the kidney, by reason of their squamous epithelium, present a barrier to gonococcus infection; it is highly probable that the soil must be prepared by an antecedent or coincident infection of another order before the gonococcus can flourish. Equally, like the bladder, anything causing congestion in the ureter predisposes to infection, as, for example, the presence of a calculus or an elbow or twist, as may occur with movable kidney. Associated with tuberculosis, a gonococcus invasion of these regions produces a very severe form of inflammation.

The treatment of ureteropyelitis is directed specifically against the local inflammation and against the occurrence of kidney congestion or hyperemia. Hence recumbency, fomentations, counterirritation and cupping, milk diet, diaphoresis and a mild degree of catharsis are imperatively indicated. Meanwhile the dose of urotropin, cystogen or salol, is diminished because of the possibly irritating effect upon the kidneys, while diuresis is continued to avoid any accumulation of thick pus which alone, by partially obstructing the flow of urine to the bladder, would become a potent cause of renal hyperemia through the pyonephrosis induced and possibly eventuate in pyelonephritis. The constitutional disturbances are treated symptomatically, and the cystitis or the urethrocystitis are not neglected. It would seem a provision of Nature that the inflammation tends to spend itself in the pelvis of the kidney instead of at once invading the kidney proper. Hence resolution is the rule in the recent cases, especially if the usual contributing causes—urethral stricture and cystitis—are relieved by judicious treatment.

If, by the well-recognized symptoms—chill, fever, pain, diminution of urine, and later a tumor—pyonephrosis is diagnosticated and the patient is obviously losing ground, drainage of the renal pelvis through a lumbar incision should be resorted to. If the operation is contra-indicated by any fact, gentle pressure over the kidney and along the ureter may be undertaken in the hope of overcoming the obstruction and so evacuating the pus by way of the ureter, or, aspiration may be performed. There is danger of rupturing the pyonephrosis by the former measure; aspiration rarely effects permanent relief.

The prognosis after drainage under these conditions is fairly good, provided pyelonephritis has not developed before the operation. The last-named condition calls for nephrectomy, provided the other kidney is present and normal, as offering the only chance of saving the patient's life. The details as to indications and contra-indications, however are beyond the scope of this paper.

Supposing the acute ureteropyelitis to have subsided without invasion of the kidney, and the chronic stage to have been reached, catheterism of the ureter to prevent stricture and for irrigation of the kidney pelvis may be thought necessary. On the other hand, in the face of a smoldering gonococcal inflammation, the traumatism and consequent congestion of catheterism may make that procedure a rash one. It will be safer to treat the ureteropyelitis by treating the now subacute or chronic cystitis or urethrocystitis by appropriate instillations and irrigations, and by diluents and appropriate medication. Upon their cure depends that of the ureteropyelitis eventually.

Funiculitis of gonorrheal origin is an inflammation of the whole spermatic cord by extension from the vas deferens as one of its component parts. It is not a common complication. Two forms are described, the simple or serous funiculitis—practically a diffuse hydrocele of the cord—and the phlegmonous funiculitis. Obviously peritonitis is possible from this source.

The treatment is suspension of all direct treatment of the urethra, anterior and posterior alike, recumbency with elevation of the hips, leeches, cold by means of an ice-bag or evaporating lotions, and a mild mercurial purge. If the cold is not well borne or later, if suppuration is inevitable, moist heat is to be substituted and the pus evacuated by incision. In the presence of marked edematous swelling without suppuration an incision may be necessary to relieve the tension and consequent pain. Whether suppuration has occurred or not, moist heat in the subacute and chronic stages will favor resolution. In addition mercury and iodide of potassium should be administered, because of their aid in causing the absorption of recent exudates, that every effort may be made to avoid occlusion of the vas deferens. If a patient will consent to go to bed as soon as pain or aching or a dragging sensation has developed in either or in both groins, it may be possible, by the application of cold to the affected groin and by supporting the testicle with a sling, to spare him the succeeding complication—epididymitis.

Epididymitis and epididymo-orchitis of gonorrheal origin usually are severer in both local and constitutional signs than those due to traumatism. In this discussion we may, for the sake of brevity, regard orchitis as a complication of epididymitis and deal with the latter alone. It constitutes the most familiar, if not the most common complication of acute gonorrheal posterior urethritis. This fact, together with the destructive effect it may have upon the man's virility, makes it most important.

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As to treatment, to that of the first stage of

funiculitis is added immobilization of the inflamed epididymis. This is the cardinal point. The ordinary suspensory bandage does not suffice. The scrotum must be reflected upward until the testicles rest upon the pubes, and by means of a sling adjusted from a broad belt about the waist, they must be retained in that situation. The character of the application made to the scrotum over the affected epididymis is not of vital importance. Speaking generally, if the case is seen within the first twenty-four hours an ice-bag is indicated, and may be kept in position so long as it continues to give comfort. If the case is not seen within the early stage, and whenever the ice-bag does not afford comfort, moist heat should be employed. The "continuous poultice," as it may be called, is formed by surrounding the inflamed organ with a compress wrung out of hot water and covered with rubber tissue. An anodyne ointment, containing menthol and belladonna for example, may be similarly used. The evaporating and anodyne lotion of tinct. aconit., tinct. opii, liq. plumbi subacet. dil. and aqua may be preferred. As counterirritants, guaiacol and nitrate of silver, gr. 60 to the ounce, painted over the scrotum, may be employed at any period of the acute stage. The relatively new compound guaiacol-vasogen is similarly useful. In the declining stage, the "continuous poultice" in the form of compress or ointment covered in by rubber tissue should be worn and mercury and iodide of potassium should be exhibited for the reasons and the purpose mentioned under funiculitis. It may be necessary to continue this part of the treatment many weeks.

Suppuration is not as common in gonorrheal epididymitis as it is in that occurring in the course of catheter life. It requires incision and drainage.

The febrile movement and the pain of an acute epididymitis may make the administration of an antipyretic and analgesic desirable.

Acute prostatitis is a fairly frequent complication. It gives rise to constitutional symptoms that usually require active treatment, and to local pain that demands relief by anodyne suppositories or by morphine with atropine injected into the perineum. The urine is to be kept in quantity and quality, and instrumentation rigidly restricted, as in urethrocystitis and cystitis. Elevation of the hips and support of the testicles are important.

The local treatment as such is, at the outset, leeches applied to the perineum and to the margin of the anus, continuous cold to the perineum by means of an ice-bag, and intermittent cold directly to the prostate by means of a small rectal psychrophore. On the other hand, the effect of heat in relieving the urethrovesical spasm and in avoiding the tendency to it, may make it the part of good judgment to substitute poultices and hot rectal irrigations with normal salt solution. The rectal instruments chosen for these cases should be small, and if by their pressure they cause pain or an aggravation of the symptoms, their use should be discontinued.

Meanwhile, by digital examination at regular intervals, signs of suppuration are sought in the gland. It occurs occasionally. The detection of an abscess in the prostate is not always easy, especially if the focus be deep-seated. Consequently, it not infrequently happens that before fluctuation becomes manifest to the finger a sudden gush of pus from the urethra during an effort to urinate marks the rupture of a follicular abscess. Retention of urine in the course of acute prostatitis makes it highly probable that an abscess is pointing toward the urethra or the bladder. This secondary complication necessitates using the catheter, the very introduction of which is the means often of rupturing the abscess.

When fluctuation is discovered, the abscess should be evacuated and drained through a transverse perineal incision. It should be noted that the pus first escaping through such an incision may come from a periprostatic abscess, and that unless this cavity is explored, and the prostate palpated by the finger, an abscess in one or the other lobe may be overlooked. If there is any doubt, an aspirating-needle should be passed along the finger as a guide and pushed onward into the suspected lobe. If pus is drawn, an opening is made along the course of the needle and drainage established.

The treatment of the subacute and chronic stages of prostatitis, whether the acute stage ended in resolution or in suppuration, can be given only the briefest summary in this paper. Digital massage of the gland, hot rectal irrigations, bladder irrigations, and instillations into it and the deep urethra, form the outlines.

Acute seminal vesiculitis about equals acute prostatitis in occurrence. With epididymitis and prostatitis it forms a trio of interdependents, any one or two of which, however, may exist without the others. The treatment is that of acute prostatitis in all respects with, in addition, appropriate medication to relieve the priapism—a somewhat pathognomonic and very annoying symptom of acute inflammation of the vesicles.

Suppuration within the vesicle very rarely requires surgical intervention; the pus finds exit through the ejaculatory duct. If, however, a perivesiculitis goes on to suppuration, the abscess must be evacuated. The pus can be reached through a transverse, a curved or a U-shaped perineal incision. The necessary dissection is facilitated by having the patient in the knee-chest position with the thighs astride the table as recently recommended by Dr. Fuller.

The treatment of subacute and chronic vesiculitis also is that of the corresponding stages of prostatitis. It should be noted that when to begin the massage, whether to continue it, and how often to repeat it, depend upon the condition of the inflamed organ and the effect produced.

Gonorrheal rheumatism, as representative of the general or systemic complications, may occur at any time in the course of either anterior or posterior urethritis. Usually, however, it occurs

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later, rather than earlier, and therefore is associated with the latter.

Internal medication is directed chiefly against the constitutional disturbance. Though antirheumatics are of little avail, they should be tried. Oil of gaultheria would seem to be the most reliable. Iodoform until headache develops, or the odor is noted in the feces has been advised. A German observer (Ruheman) has used protargol in three-grain pills, three to four times daily, with apparent good results.

The local treatment is all important. Immobilization by a posterior splint or a fenestrated plaster-of-Paris dressing; counterirritation and blistering, by the nitrate-of-silver stick, or the Paquelin cautery, for example, and cold by means of the ice-bag are indicated in the early stage. Later, the ice-bag is replaced with poultices and they in turn with compression, if effusion into the joint has taken place, to hasten the absorption of the fluid. In this, iodide of potassium internally, may assist. Well on in the subacute stage daily massage and tentative passive motion are begun.

In the event of severe suppuration within the joint tapping and irrigation with a solution of carbolic acid or mercuric bichloride under strictest surgical precautions are indicated. Suppuration in the peri-arthritic tissues calls for incision and drainage of the same. In the severest cases of suppuration within the joint, arthrotomy, irrigation and drainage may become necessary. After any one of these operations, follow in turn immobilization, compression, massage and passive motion. The treatment of the urethritis, meanwhile, should be active, yet conservative, as instrumentation in acute urethritis often seems to precipitate a gonorrheal rheumatism in a predisposed patient. In proportion as the infection is arrested at its source the arthritic manifestations subside. Consistently the general health should receive attention, as most sufferers from gonorrheal rheumatism are anemic and have not vitality enough to resist infection.

MEDICAL PROGRESS.

Toxemia of Pregnancy.—It is still very uncertain what is the true cause of systemic poisoning which occurs during pregnancy, but it is probable that it depends upon many factors. The warning sign, however, which points to danger is, according to S. MARX (*Med. Rec.*, Apr. 20, 1901) the diminution in the amount of urea excreted. Women may go to term with albuminuria and casts without symptoms of toxemia, and in the most malignant cases there are neither casts nor albumin found. The excretion of urea is the important sign to be watched and regular examinations should be made upon twenty-four-hour specimens to determine the ability of the system to excrete the poisonous principles. The essential point in treating a uremic condition lies in the stimulation of all the emunctories. Calomel, jalap, elaterium or the salines work best upon the bowels, while the skin is best stimulated by hot packs, sweatings or mild diaphoretics. Pilocarpine is not recommended. To increase the function of the kidneys, a milk diet, an abundance of water to drink and hot rectal or colon irrigations, quarts being used at a time, seem to be the most efficacious. When the heart is overacting and the pulse large and bounding venesection is frequently of great value. The vasodilators are the most valuable drugs, nitroglycerin, chloral and small doses of opium. Sparteine and caffeine are useful cardiac stimulants. Digitalis is frequently too irritant for the kidneys.

Malignant Endocarditis.—Three cases of this disease are reported by A. E. ROUSSEL (*Med. Rec.*, Apr. 20, 1901) one of which followed an attack of measles, another developed during a convalescence from typhoid and the third succeeded closely upon a miscarriage of twins and finally resulted in recovery. Only three instances are noted in literature where malignant endocarditis was secondary to measles and yet the reported case seems to be an undoubted illustration. In Osler's collection only four patients under ten years developed malignant endocarditis during or succeeding an attack of typhoid. One of the reported cases was that of a child of nine years of age who had all the characteristic symptoms and signs of that condition. The leucocytes also rose to 50,000 which seldom occurs in these conditions. The third case might be considered of doubtful diagnosis on account of the recovery, but the patients manifested all the usual symptoms. She had a large liver and spleen, ran an irregular temperature with occasional chills and sweats, had multiple abscesses in various parts of the body and cultures from the blood showed streptococci. Later in the illness she developed systolic murmurs over the apex and base, had considerable pain in the precordial region and the heart's action because tumultuous and diffuse. It is now believed that the simple endocarditis is usually infective, the difference between it and the malignant form depending upon the virulence of the germ. The staphylococcus is the more fulminating form, the pneumococcus and streptococcus infection being long drawn out.

Diagnosis of Ectopic Gestation.—The symptoms which should lead to a recognition of the above condition may be divided into ordinary and extraordinary. A. F. CURRIER (*N. Y. Med. Jour.*, April 20, 1901) mentions among the first class all the symptoms and signs which are present during the early weeks of a normal pregnancy: Points in the history which may lead to the suspicion of an ectopic gestation are retroflexion of the uterus, previous sterility, disease or dislocation of the Fallopian tubes, a bicornate uterus or a previous ectopic gestation. The most important of the extraordinary signs is hemorrhage. This is seldom external or manifest. A fetal sac at the fimbriated end of the tube seldom progresses to the end of the first month without rupture. When within the tube abortion usually

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occurs between the sixth and twelfth weeks. The weakness of collapse, the flickering pulse, the pinched face and the shallow breathing is most significant. Next in importance is pain. It is always present, usually paroxyzmal, sharp and darting and the thigh is commonly flexed upon the abdomen. Whether due to the stretching or rupture of the peritoneum or to a localized peritonitis it is not known. The presence of a tumor made out most easily by rectal bimanual examination under ether, if necessary, is the third diagnostic point. These three symptoms—hemorrhage, pain and tumor, are the most important of the extraordinary symptoms and are the most constant. An early diagnosis is usually necessary to a successful termination of the case by surgical interference.

Cystinuria.—Only seventy-five cases of this malady have been found in literature and no recoveries reported. A fermenting organism is supposed to produce cystine and intestinal digestion is usually the function attended to. J. REID (*N. Y. Med. Jour.*, Apr. 20, 1901) had a patient suffering from painful micturition in whose urine cystine was present. An ulcer in the anterior urethra was finally healed by local application of calomel and by the internal use of gray powder, and later, by the use of quinine and tannic-acid powders the cystine entirely disappeared.

Acute Spinal Ataxia.—This condition, coming on in a few days or weeks, is characterized by a marked ataxia of the lower extremities with some temporary or minor sensory disturbances and is usually classified as an acute cerebral or cerebellar ataxia, an acute peripheral ataxia due to multiple neuritis or an acute form of tabes dorsalis, C. L. DANA (*N. Y. Med. Jour.*, April 20, 1901) reports four cases without autopsies and advances the theory that they are due to senile arterial changes or to syphilitic lesion of the posterior blood-vessels of the spinal cord, causing either a blocking or hemorrhage with the usual reactive process. All cases showed a marked ataxia. They could not walk except in the characteristic ataxic manner. There was some disturbance of cutaneous sensations, but no loss of pain or thermic sense. The knee-jerks were absent in two cases, slightly exaggerated in one. There was some paresis, but no wasting and no reaction of degeneration. The bladder and rectum were slightly disturbed. The patients suffered no pain either at the onset or later. The prognosis seems to be very good for the improvement is usually decided though rather slow. The acute onset, the age of the patients, usually above fifty, the history of lues, and the characteristic symptoms, all make it practically certain that it is a vascular disorder involving either hemorrhage or softening. The absence of pain or fever and the rapid recovery show that the process is not an inflammatory or degenerative one.

Obstetric Hemorrhage.—The antepartum hemorrhages suggest miscarriage, placenta previa, premature separation of placenta, ectopic gestation, rupture of uterus, or menstruation during gestation, yet, writes J. CLIFTON EDGAR (*Amer. Gyn. and Obstet. Jour.*, Apr., 1901) they may be due to the fever and local hyperemia of the exanthemata as variola, scarlatina, and measles, of venous obstruction due to heart, liver and visceral conditions, of hematosalpinx, sarcoma, fibroma, polypus, and epithelioma. Less frequently the hemorrhage comes from the urethra or other extra-uterine source. The most important of all is the bleeding indicative of a threatened or inevitable abortion. Severe hemorrhage from low implantation of the placenta is much more common than generally believed. The hemorhages of labor are due to premature separation of the placenta, ruptures of uterus or cervix, and fibroids, malignant disease, or varicose veins. In the third stage uterine inertia is the most important factor, next, lacerations of the genital tract, insufficient contraction of the lower uterine segment, partial or complete inversion, or fibroids or cancer. Puerperal hemorrhages are due to mental emotions, disturbances of the circulation, malaria, albuminuria, sepsis, and the acute infectious diseases. Also locally to retained clots, placenta, or membranes, a secondary placenta, distended bladder or rectum, retroflexion, inversion, fibroid and polypoid tumors, cervical lacerations, malignant disease, and subinvolution. Pelvic hyperemia may be induced by assuming the upright position too soon after delivery or by too early sexual intercourse.

Renal Tuberculosis.—H. M. KINGHORN (*Montreal Med. Journal*, Mch., 1901) finds that the general symptoms are often lacking at the onset, but later there may be loss of appetite and weight, perhaps some night-sweats, and especially fever with evening rise. Polyuria is one of the first indications, and frequency of micturition, equally marked at night, is suspicious. At any time there may be a brisk emission of considerable pus; or blood in clots or streaks may appear. Blood not clotted is intimately mixed with the urine, and the hematuris may be intermittent, lasting for a few days at a time. The bacilli are differentiated with such difficulty from the smegma bacillus even with acid alcohol, that guinea-pig inoculation is the method of choice for diagnosis. The stain used in Trudeau's laboratory is carbol-fuchsin, which when washed and dried is decolorized with 25-per-cent. nitric acid, washed and dried, and placed for two minutes in 95-per-cent. alcohol. Tumor in the kidney region is a late symptom but should be looked for. Pain depends on involvement of pelvis or ureter, though if the kidney parenchyma is involved alone there may be a dragging sensation. As a rule the pain is uninfluenced by motion, but is quieted by the dorsal decubitis. It may be aggravated by meals, or a blow or cold, but chiefly before the monthly period. It may be sharp, simulating stone, possibly from the excretion of purulent lumps or phosphatic concretions, or from renal congestion.

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Mediastinal Tumors and Aortic Aneurisms.—The differential diagnosis between both conditions will always be a difficult chapter in medicine, since pressure symptoms form the dominant features in both, yet H. HAMPELIN (*Zeitschft. f. kin. Med.*, Vol. 42, No. 304) gives a few valuable points, based upon an observation of 200 cases. Stenosis of the trachea points strongly toward aneurism of the arch or trunk of the aorta. Bronchial stenosis, on the other hand, occurs equally often in both conditions and betrays their presence more on physical examination of the lungs than by dyspnea. Symptoms of esophageal stenosis generally enable an exclusion of mediastinal disease and point more to changes of the esophagus itself, such as stricture and carcinoma. Recurrent paralysis is generally a symptom of aneurism. In doubtful cases a recurrent paralysis occurring in advanced age with cachexia will speak for tumor, while if occurring earlier, with syphilitic antecedents, aneurism is the more likely of the two. Premonitory pulmonary hemorrhages turn the evidence in favor of aneurism. Finally Oliver's symptoms and the X-rays may be resorted to, though the latter rarely give much help.

A Case of Acromegaly.—An interesting case in which the symptoms of acromegaly were well-developed, came under the care of M. A. TRACHTENBERG (*Zeitschrift. f. klin. Med.*, Vol. 42, No. 3 and 4). The patient, a woman aged thirty-one years, showed the typical increase in size of hands, feet and face, especially the lower jaw, where the nose was broad and thick, the lower lip indurated and everted, the tongue enormous and the uvula elongated. Among the typical symptoms may be mentioned thickening of sternum and ribs, a slight kyphosis, absence of menstruation and abdominal type of breathing, as well as dulness over manubrium, exophthalmos, temporal hemiopia, polyuria, general weakness and failure of memory. In discussing the disease the author ascribes the dulness over the sternum to thickening of that bone and does not think it indicative of hypertrophy or persistence of the thymus since postmortem examinations have often shown this to be absent and since, in his opinion, the disease is purely pituitary in origin, though it is by no means clear whether dependent on increased or diminished activity of that gland. Contrary to the observation of most other writers, no signs of hypertrophied left ventricle could be detected.

Uterine Displacement With Adhesions.—When F. H. DAVENPORT (*Amer. Gyn. and Obstet. Jour.*, Apr., 1901) finds the uterus tipped backward, immovable, and with ovary and tube matted to it with plastic material, he places the patient in Sims' position and packs the vagina firmly with pledgets of cotton soaked in glycerin. The upper two-thirds of the vagina must be filled, for it is pressure that is wanted. The first packing must not be too forcible, as the pelvis may be sensitive. The treatment is repeated every two or three days, and after two or three packings the uterus is drawn down by a double hook in the anterior lip, and lifted by the fingers. If bands are felt, they may be massaged and lightly stretched. Definite results should show inside of about three weeks, and the softening and disappearance of exudates, and the extent to which the uterus has been replaced is surprising. At the approach of menstruation, a well-fitting pessary should be applied to be worn during the period. In obstinate cases the treatment may be prolonged for a second month. If the adhesions are very dense and the patient's sufferings are marked so that relief is imperative, removal of the appendages and amputation of the uterus should be performed. The breaking up of adhesions with ventral fixation gives only temporary relief. As such patients are usually sterile the question of pregnancy need not be taken into account.

Endocarditis.—In acute endocarditis F. L. NEWMAN (*Physician and Surgeon*, Mch., 1901) specifies four weeks as the shortest time for rest in bed and careful nursing. At this time in the sthenic cases tincture of aconite, 4 or 5 drops every three or four hours, will relieve an overacting heart, and Dover's powder or morphine will control pain. However, the majority of cases are asthenic and require digitalis, strychnine, ammonia, or ether. Usually, however, digitalis is not necessary till the acute process is passing into valvular disease. The local application of heat or cold, or a large belladonna plaster to exert pressure is often very grateful to the patient. In chronic endocarditis whatever the lesion, when there is lack of compensation with venous congestion the treatment is that of cardiac dilatation. Previous to this no medicine is needed, but care in eating, and avoidance of overexertion. At first indication of heart-failure put patient to bed, have meals light, small and several times a day, and avoid large quantities of fluid as it increases too suddenly the contents of the blood-vessels. In aortic regurgitation digitalis by lengthening the diastole allows more blood to run back into the ventricle and so may produce anemia of the brain and even fatal syncope. Yet where the dilatation is the principal lesion there is no drug so tonic to the heart-muscle as digitalis. If the heart does not respond in a few days, compensation is probably gone forever. Strophanthus is next in importance; strychnine is valuable, and caffeine though uncertain in its action on the heart, is valuable for its diuretic powers. Nitroglycerin has no action on the heart, but decreases the resistance to its systole. The symptoms must be met as they arise. For palpitation there is the ice-bag, belladonna plaster, or hypodermic of morphine; for dyspnea, nitroglycerin; for enlarged liver, calomel or sodium phosphate; for bronchitis, codeine, morphine, heroin, or hydrocyanic acid. The edema should be relieved by punctures with a large-sized needle under aseptic precautions, and fluid in the pleural cavities should be removed without delay.

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SATURDAY, MAY 18, 1901.

THE LUNACY COMMISSION.

IT has been said of Governor Odell that he has that most potent of faculties, "the seeing eye," and that he is able to divine by his knowledge of character whom to choose among the multitude to fill the positions of trust in the State.

Certainly no better instance of his penetration could be shown than in his appointment of Dr. Frederick Peterson of New York to the Presidency of the State Lunacy Commission, to succeed Dr. Wise. The success of every enterprise that Dr. Peterson has put through, in spite of the demands of a large consultant practice, has proved him a man eminently able to lead and to organize. His efforts that led to the establishment of Craig Colony for Epileptics afforded a practical illustration of the grasp of principle and detail that he possessed in adapting the bounty of the State to this branch of the dependent poor.

It is rare to find a scientific man who is an authority on his subject and at the same time competent and willing to apply his knowledge to public machinery. The acceptance of such an office by a man whose reputation is as well-known as Dr. Peterson's cannot be regarded otherwise than as a public spirited move, for although he consented to serve on the condition that the office should not interfere with his practice, nevertheless the shouldering of so much responsibility and the expenditure of the necessary time is much for a man to give to the service of his State.

Every alienist in the State will feel that Dr. Peterson's appointment will bring a fresh stimulus to the work in psychiatry, and that the tendency to do something for the insane, apart from simple custodial care, will grow.

To the citizens of New York City who have been obliged to take the treatment that Bellevue offered them, the possibility of a Psychopathic Hospital comes like a prospect of relief from the very inadequate and inefficient provision made for the acutely insane in this city. The time is ripe for making advances in the administration of the city's insane asylums, and for doing original research work with the vast amount of clinical and pathological material at hand.

Everything is ready for a leader, and Dr. Peterson, who knows men and hospitals, here and abroad, who has directed laboratories, conducted clinics, and introduced a wholly original method of caring for dependents into the State, is just the man to introduce an era of brilliant work in psychiatry, and we congratulate Governor Odell for having put the right man in the right place.

IMMUNITY TO TYPHOID FEVER.

THE immunity to certain acute infectious diseases which is conferred by one attack has naturally led many to expect the same after typhoid fever. Kanthack (Allbutt's System of Medicine) states that recovery from typhoid fever implies an immunity which lasts for years. Dreschfeld, in the same work, mentions the existence of a natural immunity in some persons and says that acquired immunity is a well established fact. He cites as an example the fact that in over two thousand cases in the Hamburg General Hospital only fourteen were affected twice and one three times.

The Widal reaction is now usually considered as chiefly of confirmatory value, although many believe it to be of actual diagnostic significance in spite of the frequent tardiness of its appearance, its occasional absence in pronounced cases of typhoid, and its occurrence in other diseases. Grüber believed that a strong Widal reaction indicated the establishment of a corre-

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sponding immunity to subsequent attacks. If this idea is correct and the presence of the agglutinating power of the blood serum is indicative of such immunity it must be conceded that the duration of the immunity is most uncertain, as the reaction sometimes fails early in convalescence and on the other hand has been observed after eight and twelve years.

That immunity is not always conferred by a first attack is illustrated by two cases reported by Nicol (*Lancet*, April 6). The first had a severe form of typhoid with hemorrhages in May, 1900. The Widal reaction was obtained. In November, 1900, he suffered from the disease a second time. It was moderately severe and of rather long duration. The Widal's reaction was again found. The second patient's first attack was in April, 1900, and the second in September, 1900, both of moderate severity. This does not necessarily show a second exposure to the disease. That the typhoid bacilli may live in the body without giving symptoms of enteric fever has been demonstrated by their frequent occurrence in the gall-bladder some time after the attack. In suppurative cholecystitis some months after convalescence from typhoid, a pure culture of the bacillus has been found. To what extent immunity has been conferred in such a case is doubtful.

The bacteria continue to live in the body, yet fail to give rise to the specific lesions which they usually cause. A second attack may be a relapse, that is, a return of the attack during convalescence, or a recurrence months or years later. The short interval between the attacks in Nicol's cases would suggest that the bacilli had remained in the body and their activity had been reawakened. If a durable immunity is conferred by one attack this should not occur. One would also expect the degree and duration of immunity to correspond with the severity of the attack.

The question is important in relation to the possibility of securing artificial immunity by anti-typhoid inoculations of the dead bacteria and their toxins. Nicol states that many of the soldiers who suffered from typhoid in South Africa had been inoculated in this way while en route thither by ship. Wright, on the other hand, presented statistics of 11,295 British troops in India and South Africa, 2,835 of whom were inoculated. Two and five-tenths of those not inoculated and only .95 per cent. of those inoculated were attacked by typhoid. His statistics of the besieged garrison at Ladysmith show that 14.1 per cent. of the 10,529 not inoculated suffered from the disease, as against 2.05 per cent. of the 1,705 who were inoculated.

Comparison of the results obtained by many observers seem to show that, while immunity is not constant after one attack of typhoid, it appears to be established for an extremely variable period in many cases. The results obtained among the British troops in South Africa and India apparently justify the idea that inoculation confers immunity frequently enough and of sufficient duration to lead to further use of this procedure, at least in cases where large bodies of men are exposed to the disease under unfavorable circumstances.

THE PATHOLOGY AND TREATMENT OF PERNICIOUS ANEMIA.

THAT pernicious anemia is not necessarily a primary affection is a conception now held by many students of blood pathology. In many cases its secondary character needs no particular demonstration, but there has seemed to remain, as a nosological entity, the type of progressive pernicious anemia, originally described by Addison.

That this type of the affection might be due to some form of gastro-intestinal infection is the theory advocated by Dr. William Hunter, and recently set forth in a striking manner at the Medico-Chirurgical Society of London.

He concludes that a micro-organism, as yet not definitely isolated, brings about by means of the gastro-intestinal canal a specific infection which leads to the definite and characteristic symptoms of the affection. Oral, gastric and intestinal sepsis is the fundamental note of his theory and it is this sepsis which brings about the hemolysis, and the intermittent blood changes with the peculiar anemia, lemon color, dyspnea, hemorrhages and palpitation. Periodic disturbances of the viscera themselves are but indices of the local results of sepsis, and occasional toxemic effects marked by general nervous prostration, fever, sweating, ataxia and nerve storms are the consequences of a generalized infection.

Adopting this hypothesis he has been enabled to treat successfully some patients, one of whom was presented to the society as cured. The line of treatment is rigid antisepsis. Diseased teeth, infected buccal membranes and lingual lesions are to be energetically attacked. Gastro-intestinal lavage and medicinal antisepsis should be practised. In addition to the usual constitutional treatment with arsenic Dr. Hunter advocated the

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use of the antistreptococcic serum. This was not directed against any known coccus, as such are not known to be hemolytic, but as a general measure.

Should further observation and treatment confirm Dr. Hunter's views, one more of the hitherto incurable affections may be said to have been conquered.

DOCTOR CHARLES RICE.

In the death of Dr. Charles Rice of New York the medical practitioners of this country have suffered a loss greater than they are perhaps able to appreciate because few of them in the hurry of their professional life pause to think of the source from which the materials of their art are derived.

The physician who has had little or no training in pharmacy takes the preparations that are given him, never asking any of the thousand and one questions that may arise regarding their purity nor their standardization, etc.

He remembers vaguely that there is such a standard as the *United States Pharmacopœia;* but of its character and its formation, its objects. its scope and its fundamental value to his daily work he rarely stops to think.

The *United States Pharmacopœia,* to-day, stands in the front rank of works of its kind as the last word on all matters pertaining to the preparation of remedies. The position that it occupies is due in large part to the careful, conscientious and learned chemist who has just relinquished his life's work.

Of the man we could say much, his work has already spoken for him. He has been a power in the pharmaceutical world not only by his great knowledge but by his personal efforts. He raised the standard of the pharmaceutical organizations throughout the country and established a feeling of confidence between the physician and the pharmacist which had not existed until the reliability of the *United States Pharmacopœia* came to be an accepted fact in both professions.

He was a man of versatile powers, a scholar and a scientist, one who always grasped the kernel of truth.

ECHOES AND NEWS.

NEW YORK.

Mount Sinai Hospital Cornerstone.—Gov. Odell, President Seth Low, Randolph Guggenheimer, Edward Lauterbach, and Dr. A. Jacobi will be the speakers at the laying of the cornerstone of the new Mount Sinai Hospital, at Fifth Avenue and One Hundredth Street, which will take place on May 22d.

Appointment of Dr. Fischer.—Dr. Louis Fischer has been appointed a Visiting Physician to the Willard Parker and Reception Hospitals.

Tuberculosis Congress.—The second annual meeting of the American Congress of Tuberculosis met this week at the Hotel Majestic. Delegates from the different States were present and many interesting papers were read. Dr. Clark Bell opened the Congress. Dr. Pryor of Buffalo said that 14,000 die of tuberculosis in this State every year, and 74 per cent. of these he believes might be saved if a correct diagnosis were made in the incipient stages and appropriate treatment instituted. The rich can go to sanatoria but the poor must die unless the State makes some provision for them. This New York State was about to do in the opening of the Adirondack Sanitarium.

PHILADELPHIA.

University of Pennsylvania.—Dr. Thomas R. Neilson has been elected Clinical Assistant Professor of Genito-urinary Diseases. Dr. Neilson has been at different periods Assistant Demonstrator of Anatomy and of Surgery at the university and also Professor of Genito-urinary Surgery in the Philadelphia Polyclinic.

New Pest House at Marcus Hook.—An emergency house capable of accommodating 500 patients has been completed at the State Quarantine Station at Marcus Hook. A new crematory has also been added to the equipment of the station. This station is said to be the second oldest in the world, having been begun in 1746.

Jefferson Commencement.—The Seventy-seventh Annual Commencement of the Jefferson Medical College was held in the Academy of Music May 15. A class of 142 was graduated. The address to the graduates was delivered by Professor W. W. Keen.

Lessons of a Decade in Hydrotherapy.—An address on the above subject was delivered at the County Medical Society May 8, by Dr. Simon Baruch of New York. Dr. Baruch said that the medical profession had been backward in adopting the use of cold water because of the erroneous idea that it produced shock. On the contrary, it produces the opposite effect when judiciously used. Water is used only for the purpose of conveying temperature. The desired effect of the use of cold water is the enhancement of the resisting powers of the individual. If a typhoid patient's teeth chatter while he is in the bath, the bath should be stopped. If he only shivers continue the bath, and increase friction. In treating insomnia by the use of hydrotherapy, warm water dilates the vessels and thus produces the desired ef-

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fect. But if the patient gets out into the cooler air this effect is counteracted and the patient is wakened. To avoid this effect the patient should be wrapped in a warm sheet and blankets and then placed between warm sheets with hot water bottles surrounding him. The effect of the bath is kept up and sleep comes.

The Diuretic Effect of Water.—Dr. Baruch said it was a mistake to believe that the diuretic effect of water was due to the flushing of the kidneys and for that reason giving large quantities of liquids. Cold water acts in the stomach as it does upon the skin, causing a contraction and then a dilatation of the vessels. This stimulates the nerves, respiration, and the systole of the heart. These things bring about diuresis. Hence the giving of one or two ounces of water every 2 hours at a temperature of 40° F., will produce more diuresis than will a half-pint given less often.

One Hundred and Fiftieth Anniversary of the Pennsylvania Hospital.—The commemorative exercises celebrating the one hundred and fiftieth anniversary of the founding of "The Mother of American Hospitals" were held in the new Assembly Room of the hospital May 11. Benjamin H. Shoemaker, President of the Board of Managers, presided and after a short address of welcome introduced the orator of the day, John B. Garrett, one of the managers. The audience included many of the physicians of Philadelphia and numerous representatives of foreign medical and scientific societies. Mr. Garrett's address was almost wholly historical in character and traced the development of this beneficent institution from its inception to its present greatness. Benjamin Franklin is generally credited with being the founder of the hospital but disclaims that honor in his autobiography. However, he was largely responsible for the furthering of the plans of Dr. Thomas Bond in regard to the institution. The petition to the Assembly for help contained neither Franklin's nor Bond's signature but was in the handwriting of the former. That document contained a plea for the insane which was far beyond the spirit of the times and recognized lunacy as a disease forty years before it was so recognized in England or France. The wisdom of the charter granted is shown by the fact that it has never needed changing except to widen the limits of the property. May 11, 1751, the act incorporating the "Contributors to the Pennsylvania Hospital" was signed by Governor Hamilton. In August a temporary hospital was secured. In 1754 part of the present site was secured and in 1767 the balance of the 4.3 acres was added. The corner-stone of the present building was laid in 1755 and the patients removed from the temporary quarters the following year. Nov. 26, 1766, Dr. Thomas Bond gave the first clinical lecture in the hospital, this marking the beginning of systematic medical teaching on this continent.

The establishment of a separate department for the insane marked an epoch in the history of the hospital. A partial separation of the insane from other patients had been attempted in 1825 but the lack of quarters hindered the movement. A tract of 101 acres of land in West Philadelphia was secured in 1835, buildings erected, and in 1841 the insane patients were removed to the new quarters. These have been enlarged, the sexes placed in separate buildings and grounds, gymnasiums, and natatoriums, etc., erected since. This part of the hospital now has accommodations for 270 female and 250 male patients and during its 60 years' existence has cost upward of eight millions of dollars. The hospital proper has been extended and remodeled until it is now one of the most complete institutions of its kind in the world. The medical and surgical wards are in separate buildings, there are two nurses' houses, the dispensary is in a detached building across the street, a mechanical and chemical water filter of 250,000 gallons daily capacity is in use, a garbage incinerator has been erected, a laboratory of clinical medicine erected and endowed, and various other improvements made. All this has been done without State or municipal aid for over a century. The Pennsylvania Hospital is an institution of which Philadelphia is justly proud because of its history, its freedom from political influence, and the character of its work.

Woman's Medical College.—At the Forty-ninth Annual Commencement held May 16, a class of 37 was graduated. The address to the graduates was delivered by Dr. Elizabeth R. Bundy, adjunct Professor of Anatomy. Dr. Talcott Williams also gave an address.

CHICAGO.

Appointment of Dr. Webster.—Dr. George W. Webster has been appointed as member of the State Board of Health to succeed Dr. M. Meyerowitz, who has resigned.

Hospital for Employees.—A hospital for employees and for the residents of the vicinity is to be constructed at a cost of $50,000 at Judd Street and Twelfth Place by the Crane Company.

Watering and Sprinkling of Streets.—The economy of water for public uses is said to be peculiar to Chicago. With the most abundant supply of any large city, upward of 190 gallons daily for every man, woman and child, against an average of 118 for other large American cities and less than 40 for European cities, there are no fountains to wash and cool the air nor running streams in the gutters to catch the dust from street and sidewalk. According to the Health Department, it is little wonder that catarrh is universal and dust diseases more prevalent in Chicago than elsewhere. The proposition to flush the streets into the sewers after they have been swept, says the Health

Department, should be carried into effect forthwith as a sanitary measure of the first importance.

Opening of New Hospital.—The formal opening of the Hospital of the Chicago Eye, Ear, Nose and Throat College, the first institution of its kind in Chicago, took place May 11th. The hospital is situated at the College, 206 Washington St., and occupies one floor. One notable feature is the establishment of a number of free beds where patients are received and attended by a corps of physicians and nurses free of charge.

Decoration for Dr. Fenger.—Dr. Christian Fenger has just received the Cross of Dannebrog from King Christian IX. of Denmark, in recognition of his contribution to surgical knowledge. The decoration consists of a gold and enamel cross, with four royal golden crowns set between the arms. On its face it bears the inscription "God and the King."

Report of Special Committee on Investigation of Cook County Hospital.—Appointment of a new warden and many radical changes in the management of the Cook County Hospital are recommended in the report of the special investigating committee. The recommendation for the removal of Warden Graham was a surprise to those who had followed the investigation. No serious charges are made against his management, but in view of the political influence shown to be back of his appointment the members of the committee decided that another man, pledged to stamp out partisan politics and personal favoritism, should be selected by the county board. Another important recommendation provides for the selection of a medical director. It is declared further that permanent improvement in the condition at the hospital is not possible without thorough reorganization of the entire working force. These conclusions are generally favored by the members of the county board, and except for Graham's removal, which may meet with opposition, the suggestions of the committee are certain to be acted upon.

In discussing the work of the internes, the manner of their selection and their duties, the committee finds nothing to suggest. The medical staff, however, comes in for mild criticism because of the lack of system prevailing. It is recommended that attending physicians visit the hospital every day. The appointment of a medical director is desired, not to superintend the actual treatment of cases, but to see that the complicated machinery of the staff organization is working effectively. To facilitate the work of the medical staff the committee suggests that a medical board consisting of the director and one representative from each of the three schools of medicine be selected by the staff. Such a central authority over the entire staff, it is believed, would improve the service.

GENERAL.

American Medical Editors' Association.—The annual business meeting of the American Medical Editors' Association will convene in the library rooms of the Ramsey County Medical Society, Lowry Arcade building, St. Paul, at 2.30 P. M., Monday, June 3d. The Lowry Arcade building is situated in St. Peter street, between Fourth and Fifth.

Dr. Javal's Blindness.—At a recent meeting of the Académie de Médecine in Paris, M. Javal, the oculist, who was operated on a year ago for glaucoma and is now totally blind, presented an apparatus of his own invention to facilitate writing by the blind.

Dr. Matthews to Go to Chicago.—Dr. Harper announces that Dr. A. P. Matthews, the instructor in physiological chemistry of the Harvard Medical School, has accepted a place on the faculty of the Medical School of the University of Chicago.

Damages for Death at Telephone.—The Supreme Court of Vermont recently held that a telephone company was responsible for damages in the case of a physician who was killed by lightning while sitting in his library reading under a telephone instrument owned by the company.

Lepers' Home in Louisiana.—The citizens of Jefferson and St. Charles parishes for seven miles around the Gustine plantation, just bought for the Lepers' Home, met in mass meeting last week and adopted resolutions asking that the Lepers' Home be not established in a thickly settled neighborhood. The meeting was presided over by State Senator Brady.

Trolley Ambulances Planned.—It is reported that the Brooklyn Rapid Transit Company will provide a receiving domitory, with cots, medicines and the best medical attendants, for the immediate aid of persons injured on the lines of the company. The plan is to fit up an unused building at Fifty-second street and First avenue, on the same lines as the ordinary emergency hospital and also to follow the idea adopted by the New York Central Railroad at Buffalo. Everything that pertains to a well-equipped hospital will be placed in the building and an ambulance service by trolley will be provided.

Overcrowding in the Profession.—Statistics of the country relating to physicians indicate the possibility, if not the actuality, of overcrowding in the medical profession. It was found in the census year that there was one registered physician to every 655 people in the United States. That the number is in excess of the need is evidenced by a comparison with Germany, where, in 1898, there was only one physician to each 2,114 inhabitants, or relatively about one-third as many as in the United States. The doctors are more plentiful proportionately in some States than in others.

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Thus, in California there was one physician to each 416 inhabitants, and in North Carolina one for each 1,189 of population. Even in states geographically connected and similar as to conditions there is wide disparity in the relative number of doctors. Thus, Michigan had one doctor to each 570 people, but in Wisconsin there were 936 inhabitants to each doctor, and in Minnesota one doctor to 1,004 people. Massachusetts has proportionately more doctors than are to be found in Connecticut and Rhode Island. The proportion in New Hampshire and Maine is much the same as it is in the Bay State, but Vermont finds employment relatively for a considerably larger number of medical men.

Mississippi Valley Medical Association.—It is announced that the dates of the next meeting of the Mississippi Valley Medical Association have been changed from the 10th, 11th, and 12th of September to the 12th, 13th, and 14th of September. This change has been made necessary because the dates first selected conflicted with another large Association meeting at the same place. The meeting is to be held at the Hotel Victory, Put-in-Bay Island, Lake Erie, O., and the low rate of one cent a mile for the round trip will be in effect for the meeting. Tickets will be on sale as late as September 12th, good returning without extension until September 15th. By depositing tickets with the Joint Agent at Cleveland and paying 50 cts. the date can be extended until October 8th. This gives members an opportunity of visiting the Pan-American Exposition at Buffalo, to which very low rates by rail and water will be in effect from Cleveland. Full information as to rates can be obtained by addressing the Secretary, Dr. Henry E. Tuley, No. 111 West Kentucky Street, Louisville, Ky. Members of the profession are cordially invited to attend this meeting. Those desiring to read papers should notify the Secretary at an early date.

Opium in Vermont.—Dr. A. P. Grinnell of Burlington, according to the *Evening Post,* has been making investigations as to the use of narcotics in Vermont, and is astounded at the facts disclosed. His statement seems almost incredible that "in the regular drug-stores and in 160 of the 172 general stores in the State of Vermont there is sold every month 3,300,000 doses of opium besides what is dispensed in patent medicines, and besides what the doctors dispense, which gives one and one-half doses of opium to every man and woman in the State above the age of twenty-one years every day of the year. By a dose one-grain opium, one-eighth grain morphine, one-half ounce paregoric, and twenty drops laudanum is meant. The amount consumed each month means a half dose for every man, woman, and child in the State every day of the year." The facts on which this statement is based were conservatively considered, Dr. Grinnell says. Where information was refused he made no estimates, and the showing of consumption would be even larger if all the sales could be tabulated. No explanation of this undue use of narcotics is offered by the Doctor, but it is ascribed by others in large part to the difficulty of obtaining intoxicants in towns where the prohibition law is enforced.

Bitters and Prohibition.—"Bitters," under which name many intoxicating compounds are sold by druggists in prohibition States, come under the ban of the law in Maine, according to a recent decision by Judge Cornish of Lewiston. The decision is broad enough, too, to shut out many well-known and approved specifics. It was made in a case arising from a seizure in Lewiston of medicine consigned to a physician. The testimony showed that wine was the predominating element in the compound; that it contained 23 per cent. of alcohol; that the wine retained its character as an intoxicating liquor, capable of use as an intoxicating beverage, notwithstanding other ingredients had been mixed therewith. On this showing the Judge endorsed the seizure of the compound. Many proprietary medicines in the market contain a larger proportion of alcohol than the one seized in Lewiston, and if the decision of Judge Cornish is upheld the shipment of any of these medicines into Maine will be in defiance of the law and at the risk of the sender.

Obituary.—Dr. E. Stanley Perkins, a well-known physician of Germantown, Pa., died May 6. Dr. Perkins served in the navy during the Civil War and was for several years demonstrator of anatomy in the Medico-Chirurgical College in Philadelphia.—Dr. Robert Bolling of Philadelphia died May 12, aged 68 years. He was for many years associated with the late Dr. D. Hayes Agnew as demonstrator of anatomy in the latter's private institution.—Dr. Andrew K. Minnick died May 11, of cancer of the throat. He served in the German army during the Franco-Prussion War and was for some time connected with the Jefferson Medical College of Philadelphia.

Dr. Norman Armett Smith died at his residence in Greenwich, Conn., on Sunday night of paralysis, aged seventy-eight years. Dr. Smith was a native of Worcester, Mass.

Dr. James Hayes, one of the oldest physicians in Central New Jersey, died Monday at his home, in Plainfield. The cause of his death was cancer. Dr. Hayes was the son of Dr. Samuel Hayes, who was one of the first physicians to practice in Newark. Dr. James Hayes was the oldest graduate of Princeton University, having received his diploma in 1841. In 1854 he graduated from the College of Physicians and Surgeons in New York, and after a short residence in Brooklyn moved to Plainfield. He leaves a daughter and a son.

Dr. Charles Rice, one of the leading pharmaceutical chemists of the country, and for twen-

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ty years chemist of the New York Charities Department, died in Bellevue Hospital May 11th from asthma, at the age of sixty-five years. He had been ill for the past year. Dr. Rice was connected with the Charities Department in various ways for thirty-five years. He was a pharmacist on board a Union war vessel during the war. As a careful student of pharmaceutical science his influence was strong in raising the standards of the pharmaceutical profession. As Chairman of the Revision Committee of the *U. S. Pharmacopœia* he moulded the policy of that standard work. In addition Dr. Rice had an international reputation not only as a chemist, but as a Sanskrit scholar.

CORRESPONDENCE.

THE KARNICE.

To the Editor of the MEDICAL NEWS:

DEAR SIR: "The Karnice" is the name of an apparatus destined to bring help to persons buried alive.

It is the invention of the Russian Count Michel de Karnice Karnichi, who was impelled to his researches by being witness to the narrow escape of a young lady who was thought to be dead and was about to be buried.

The apparatus consists of an iron tube, 10 centimeters in diameter, one end of which is screwed to the circumference of an opening made in the lid of the coffin, while the other end is connected with a small quadrangular metal box containing signals. This box is the only part visible over the grave; the tube is buried in the ground.

Through the whole length of the tube passes a metal rod which enters the coffin below and is connected with the signals above. At the lower end it has a metal ball which is placed 4 or 5 centimeters above the chest of the supposed dead. Whether this ball be pushed or pulled, it causes a sliding movement in the mechanism contained in the box, in consequence of which the box opens, a metal ball is displayed above it and a loud bell is made to ring for a considerable length of time.

The person enclosed in the coffin receives immediately all air necessary for comfortable breathing. A lamp throws light down to him, and the tube serves as a powerful speaking trumpet to make his voice audible at a great distance.

All joints being hermetically closed, no emanation of gases due to decomposition can escape.

When the tube is removed a thick metal plate lined with rubber and moved by a strong spring closes the opening in the coffin.

The box cannot be opened from without. The construction of the apparatus is of the simplest. There is no complicated machinery to get out of order, nor is that unreliable factor, electricity, used at all.

HENRY J. GARRIGUES.

107 East 62d Street, New York.

OUR LONDON LETTER.

[From Our Special Correspondent.]

LONDON, May 4th, 1901.

THE FORTHCOMING TUBERCULOSIS CONGRESS—DIFFICULTIES SMOOTHED AWAY—PLENTIFUL INFLOW OF MONEY—FAIR PROMISE OF A SUCCESSFUL MEETING—THE GREAT OFFICERS OF THE CONGRESS: PERSONAL SKETCHES—PROGRAMME OF WORK.

THE affairs of the International Congress on Tuberculosis to be held here in July next, which at one time were in a somewhat critical condition, have lately taken a favorable turn. The Congress will now bask in the light of the royal countenance; the King's patronage has been secured and the proceedings will be formally opened by His Royal Highness the Duke of Connaught, as representing his august brother. The number of adhesions so far is about 700, not including foreign delegates and members who, it is estimated, will make the total up to at least 1,500. This is the more gratifying that it was not unlikely that our Continental neighbours would hold aloof. At the Congress held in Naples in 1900 England was not officially represented at all, and in fact there were only two or three casual Britons present. This was due to the blundering of the Italians who have many admirable qualities but showed little capacity for organization and no idea of businesslike methods or practical management at this occasion. But the absence of the English speaking element—for America was not much better represented than Great Britain—had a bad effect, and led to an attempt being made to ignore us by the formation of a kind of Triple Alliance between Germany, France and Italy for combined warfare against the common scourge. An "International Committee" was formed for the purpose which did not include representatives of any other countries than the three named above. The chief duty of this international committee was to be the organization of Tuberculosis Congresses, but no reference was made to the plan which had been announced some time before of holding a Congress in London. In what relation the forthcoming Congress here is to be regarded as standing to the one held at Naples it would be difficult to say; but it is certain that the "International Committee" has had nothing to do with its organisation.

There appears to be every prospect of a successful meeting. The promoters of the London Congress are naturally highly gratified by the support they are promised from your side of the Atlantic, and Germany has also responded with something like enthusiasm, for the Committee

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there formed in furtherance of the objects of the Congress includes the names of the Duke of Ratibor, a very important magnate, who was President of the Tuberculosis Congress held in Berlin, and several of the leading luminaries of medical science in the Fatherland. The great Koch has graciously consented to take part in the show. There was, it is understood, some difficulty in securing him. He expressly stipulated that he should be "on" (as the music hall artistes say) on the first day, and he further insisted on receiving assurances that the second wife whom, as all the world knows, he took unto himself some years ago, should be taken to the bosom of the British matron. An address will also be delivered by Professor Brouardel, the retiring Dean of the Paris Medical Faculty, who is one of the leaders of the campaign against tuberculosis in France. So far nothing has been heard of any star of corresponding magnitude from Italy, but there will doubtless be the usual crowd of delegates of various countries, clad in the swallowtail of ceremony and glittering with orders and decorations.

The financial aspect of the arrangements for the Congress caused a good deal of anxiety to the Organizing Committee at one time, but money is now coming in plenteously notwithstanding the abnormal drain there is on John Bull's purse at present owing to the increasing exactions of the Chancellor of the Exchequer and the large demands of all sorts of charitable organizations for the relief of the manifold miseries caused by the war in South Africa. Already the funds subscribed amount to some 20,000 dollars, and the inflow steadily continues.

The Congress is to be held in the Queen's Hall, close to the Langham Hotel where Americans most did congregate before the appearance of the huge caravanseries which have lately sprung up like fungi in the neighborhood of Charing Cross. The proceedings open on Monday, July 22d, and close on Friday, July 26th. Among the great officers of the Congress those best known to the American medical public are probably Sir William Broadbent, Chairman of the Organizing Council; Professor Clifford Allbutt, Chairman of the General Purposes Committee; Sir James Crichton-Browne, Chairman of the Reception Committee, and Mr. Malcolm Morris, the Honorary Secretary General. Sir William Broadbent is reputed to make the largest professional income among the physicians of this country. It may be well to explain that the term "physician" with us is not used, as I believe it is in America, as a generic name for practitioners of the art of healing; by English use it is restricted to those who limit their sphere of practice to internal medicine. A physician by the very nature of their practice cannot make so much money as a surgeon who has his hands full of work; the former has to sit at the receipt of custom a whole forenoon to earn $150 to $200, while the latter by two or three operations performed before the physician begins his work, may pocket from $1,000 to $1,500. The physician's only chance of earning large fees is by journeys to distant parts of the country, the charge for which is at the rate of two-thirds of a guinea (about $3.50) a mile. Sir William Broadbent spends a considerable portion of his working life in the train, and in this way he makes from fifty to sixty thousand dollars a year. He is a sound physician who, without giving scandal to his brethren by any of those subtle forms of advertising in which many professional Pharisees indulge themselves, has made himself well known to the public. He stands high in favour with royalty, and what is more to the purpose from a financial point of view, he has the power of making himself specially acceptable to rich Hebrews. Yet in one respect Sir William Broadbent is a disappointed man. He nourished the very natural ambition to be the titular and official head of his profession by becoming President of the Royal College of Physicians, but he failed on two occasions to secure the suffrages of the Fellows of the College who choose their President in much the same manner that the College of Cardinals elects a Pope. It is supposed that his failure was due to his connection with the National Association for the Prevention of Consumption, a body which is the motor power of the forthcoming Congress. This Association has from its first beginnings been a stone of stumbling to a sect of the College which thinks that any cooperation with the public in the prevention of disease would necessarily be fatal to its dignity. Though it was obvious that any campaign against tuberculosis, if it was to be successful, must be a people's war, the College would not take the initiative in starting it lest some infection from the *profanum vulgus* should come between the wind and its nobility. Sir William Broadbent in a more philanthropic spirit put himself at the head of the movement, and for this he was punished by the prim academic pundits who have a pretty large voice in the councils of the College.

Dr. Clifford Allbutt is Regius Professor of Physic in the University of Cambridge, and besides being a first rate clinician is a man of wide general culture. His contributions to the great "System of Medicine" which bears his name are marked by a literary grace too rare in medical writers. He is a scholarly physician of the old type now all but extinct, with the fullest equipment of modern science. For character as well as knowledge he stands among the highest in the little group of men who may be taken as truly representative of British medicine. He is one of those personalities whose name of itself places a stamp of respectability on any movement or institution with which it is associated.

Sir James Crichton-Browne was originally what is somewhat ambiguously called in this country a "mad doctor," and he is now a Lord Chancellor's Visitor in Lunacy, an official position which gives him a good deal of importance among those who have to administer our laws relating to the care of the insane. He is an able

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man and his co-operation is much valued by the pioneers of movements and the propagators of hygienic ideas on account of his effectiveness as a public speaker. That is a quality much rarer among us than among the citizens of your great Republic, and the gift is proportionately valued. His copious eloquence on any given subject was the secret of Gladstone's power over the mass of his countrymen; and the same in an infinitely lesser degree may be said of Sir James Crichton-Browne.

Mr. Malcolm Morris is well known as a dermatologist and also as the editor of *The Practitioner*, a periodical which was crumbling into decay when five or six years ago he breathed life into the dry bones. To that periodical belongs the credit of the initiation of the campaign against tuberculosis in this country, and its editor has been a leading spirit in the National Association for the Prevention of Consumption, since its foundation. He is to visit America almost immediately after the Congress in order to deliver the Lane Lectures at San Francisco.

The work of the Congress will be distributed among four Sections: (1) State and Municipal; (2) Medical including Climatology and Sanatoria; (3) Pathology including Bacteriology and (4) Veterinary (Tuberculosis in Animals). The first Section is to be presided over by Sir Herbert Maxwell, a Member of Parliament, who though not a physician, is a prominent sanitarian and a charming writer on many subjects. It is to discuss such subjects as the geographical distribution of phthisis in England and Wales; the incidence of phthisis mortality in particular occupations; the statistical evidence against the heredity of phthisis; the statistical study of phthisis in relation to soil; the notification of tuberculosis; the influence of housing and aggregation; the control of milk and meat supplies and the provision of sanatoria. Among those who have promised to take part in the work of this section are Dr. Hermann M. Biggs, of New York; Henri Monod, Directeur de l'Assistance et de l'Hygiene publiques de France, and Dr. A. J. Martin, Inspecteur-Général de la Salubrité de l'Habitation de la Ville de Paris, Membre du Comité consultatif d'hygiène Publique de France; Professor Sheridan Delépine, of Manchester; Dr. Tatham of the General Register Office, Somerset House; Dr. Whitelegge, His Majesty's Chief Inspector of Factories, and a number of medical officers of Health.

The Medical Section of the Congress has for its President Sir Richard Douglass Powell, one of the physicians who ministered to Queen Victoria on her deathbed. He was believed to be opposed to the movement and even delivered a vehement harangue against it some two years ago at the Sanitary Congress held at Southampton. He has since seen the wisdom of moving with the flowing tide. A discussion on Climatology in relation to Phthisis will be opened by Dr. C. Theodore Williams and Dr. Burney Yeo, both of whom are recognised here as authorities on chest complaints. Another discussion will be on "The Therapeutic and Diagnostic Value of Tuberculin in Human Tuberculosis." In this Koch is expected to take part. Professor Clifford Allbutt will open a discussion on Sanatoria for Consumptives. The sections of Pathology and Bacteriology will be presided over by Professor G. Sims Woodhead, of Cambridge, one of the best and at the same time most modest of pathologists. The subjects on the programme are "The Morphological and Physiological Variations of the Bacillus Tuberculosis, and its Relations (*a*) To other 'acid-fast' bacilli, (*b*) To the ray fungus and other streptothrices; The Varieties of Tuberculosis (Morbid Anatomy and Histology); Mixed Infections in Tuberculosis; and the Tissue-changes and constitutional effects produced by the various constituents of Tuberculin." A discussion on this last subject is to be opened by Koch. Dr. Roux and Professor Metchnikoff, of the Pasteur Institute, Paris, are expected to take part in the proceedings.

The Veterinary Section the President of which is Sir George Brown, C.B., one of our leading authorities on the diseases of animals, will debate such questions as "The Diagnosis of Tuberculosis in Animals During Life"; "Tuberculosis and the Milk Supply" and "Legislative and other Measures necessary to combat Tuberculosis amongst Animals." This last discussion will be opened by Professor McEachran, F.R.C.V.S., D.V.S., Chief Veterinary Inspector to the Canadian Government.

In connection with the Congress there is to be a Museum illustrating the pathology, treatment, or prevention of tuberculosis. It will consist of two sections (1) Pathological and bacteriological preparations and specimens illustrating tuberculosis in man and animals. (2) Plans and models of hospitals and sanatoria, charts, and documents bearing upon the historical, geographical, and statistical aspects of the subject.

TRANSACTIONS OF FOREIGN SOCIETIES.

British.

PATHOLOGY OF DROPSY—SUPRAHEPATIC ABSCESS.

E. H. STARLING, at the Pathological Society of London, April 2, 1901, read a paper on the subject of the pathology of dropsy. At the outset he said that he had been able to carry his experiments forward only on healthy normal animals. He had consequently not been able to supply that most exacting test, namely, the observation of the phenomena under the conditions of disease. Dropsy he thought might be defined as an abnormal collection of fluid in the subcutaneous tissues and in the serous cavities of the body due to a disturbance of the balance between fluid-production and fluid-absorption in these same parts of the physiological economy. His experiments and conclusions are based solely on what may be termed *mechanical* dropsy. Many various factors are at work determining dropsy.

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which may be classed under two categories; first, such as cause increased transudation, and, second, such as cause decreased absorption of the fluid. Ordinarily the factor of decreased absorption is entirely negligable when compared with the increased transudation and he is led to believe that such is the ruling relation in most cases. The elements at work in lymph-production are chemical and physical. The purely chemical elements may be regarded as diffusion, against which the vessel-walls offer no bar, as there is constantly an interchange through these walls of the fluid without, with that within the capillaries. Whenever increased diffusion occurs it may be postulated that large molecules have for some reason become small and hence more rapidly and completely dialyzable. Under such hypothesis one may account for any local edema as in the inflammatory conditions, but one cannot account for the extensive obstinate or permanent dropsies met with in practice. The physical basis of the increased diffusion rests, first, upon augmented presence of the blood within the capillaries, and, second, upon an increment in the permeability of the vessel-walls. As to this permeability, it is to be borne in mind that in the viscera it is in virtue of their functions greatest, whereas in the extremities it is least. In his experiments, unfortunately, the extremities were the field of observation and always in the presence of this unfavorable factor. Mechanical obstruction to the circulating blood will not produce dropsy whether present in the veins or in the capillaries. It was found necessary to reduce the nutrition of the walls either by the injection of some poison, like tissue fibrinogen, or by the initiation of hydremia. Only after such depreciation of the capillary-wall-nutrition could edema be produced. This was certainly true as regards the dropsy of mechanical pressure by tumor. Cardiac dropsy was slightly different. He had not been able to see why in cardiac disease there should be a rise of blood-pressure, and for the purpose of so demonstrating he employed Cohnheim's device of injecting oil into the pericardium and found that in simple cardiac failure there is a fall of pressure in the capillaries. The factor at work here therefore appeared again to be alterations in the condition of the capillary walls which rendered them more permeable to the blood. An example of this is the fact that in ischemia under conditions of normal blood-pressure there is very marked transudation into the tissues. With regard to the serous cavities, much the same problems were encountered. Simple increase in the blood-pressure would not cause a pleuritic effusion, but so soon as the vessels were damaged or the pleura injured, the effusion promptly took place. In the peritoneal cavity probably the blood-pressure changes were a more potent factor.

W. EWART spoke of the purely clinical aspects of the question and held that there is a nervous factor at work in these cases of effusion and particularly of localized edema, as found associated with local abscess and gout. Here the vasomotor changes were manifest at once in the redness. In the localized edema of paralyzed limbs there is also probably a nervous factor. Passing now to the more generalized edemas, especially that due to nephritis, his method of treatment by acupuncture and feeding had led him to suppose that here the brain stimulated by the toxicity of the blood took the place of the local nervous influence acting in the circumscribed dropsies. At any rate relief of the edema by drainage and suitable feeding always stimulated diuresis. He thought this could best be explained by the hypothesis he had outlined.

MR. DANIEL, at the Harveian Society of London, March 21, 1901, showed a man who had the following history of a suprahepatic abscess treated by the transpleural method. He had had remittent fever and dysentery with mucoid stools and tenesmus, but without blood, in 1896 when in China as a naval signal man. Since then he had had three attacks of what was called gastritis and the condition was treated as such. At one time a swelling appeared in the right side which was diagnosed as abscess of the liver, but apparently after six weeks of treatment it disappeared. He left the Navy in 1896 and all these attacks had occurred in England between 1897 and 1900. In 1897 he contracted syphilis. The fourth and last attack of the gastro-enteric troubles began in January, 1900, with pain at the base of the right chest, which was not affected by food. The patient was flatulent, anemic and constipated. The liver was not enlarged or palpable and the spleen was in the same condition. He had no definite physical signs but abscess of the liver was suspected. March 16th after a course of treatment for dyspepsia, it was noted that increased pain in the epigastric region had appeared and a month later in April there was deficiency of movement of the right side of the chest and a small amount of pus was suspected. The liver was still not palpable. Three weeks later it was found on admission to fill the epigastric region, part of the right lumbar and almost reached the umbilicus. It was soft, slightly elastic, but presented no definite edge. The patient was much depreciated, pale, sallow, with a temperature of 100.4° F. and great mental depression. The mass showed no fluctuation and was dull all over and caused dulness up to the fourth rib on each side in front and up to within an inch of the angle of the scapula behind. The breath sounds were deficient over the right base. The apex beat was displaced upward and outward considerably. He had epigastric pain and tenderness which were most marked when he lay on his back. He slept well, but perspired freely at times. He also had distinct pain at the tip of the right shoulder, and a slight leucocytosis. Aspiration in the eighth space of the scapular line yielded much chocolate-like reddish-brown fluid which contained tissue-débris and actually disintegrating cells and yielded a pure culture of the

bacillus coli communis. Operation was performed. Free drainage was the outcome and very rapid, full recovery followed. The heart returned to its normal position and every feature pointed to complete cure. Amebæ were found in the walls of the abscess. Eleven months after the operation, the patient feels very much better and says he never felt so well in his life. The right lung has also expanded completely.

SOCIETY PROCEEDINGS.

AMERICAN SURGICAL ASSOCIATION.

Annual Meeting, Held at Baltimore, Md., May 7, 8, and 9, 1901.

SECOND DAY—MAY 8TH.

(Concluded from Page 757.)

In response to a most cordial invitation from the Faculty of the Johns Hopkins Medical School the Association convened for this morning's session in its amphitheatre. The Value of bedside Work in the teaching of medicine was the theme chosen by Dr. Osler. In laying special stress upon this, he pointed out that unless a lecturer is specially gifted he becomes not alone a bore but a positive hindrance to the student. Before the moralist can suggest any remedies for existing evils he must have a firm grasp on what is right and what is wrong; ere the medical student can outline a mode of treatment for the sick he must have an equal grasp of the normal, healthy state.

The Cystoscope.—Dr. Kelly next demonstrated his cystoscope catheterizing a patient's ureters as he talked. In connection with some of the difficulties others had had in this work, he said that attention to the little details is absolutely essential to success. The position of the patient; knee chest; the position of the arms and of the face; in fat women, the emptiness of the stomach; the ballooning of the vagina with air; these, and a number of other factors he classified as having special import. In every case of pyurea one should determine the precise source of the pus as early as possible. Occasionally a simple cystitis will not clear up because of a small area of ulceration—this can be seen with the cystoscope, and, if necessary, excised—as he had recently had occasion to do. Too many people who are treated for colitis have a simple proctitis and with the proctoscope this can easily be diagnosed and treated.

Use of the Cystoscope in the Male.—Dr. Young next showed how to reach the male kidneys with as much facility as Dr. Kelley the female. Under purely local anesthesia and in a few moments over three minutes, he painlessly passed double catheters on a patient whom he had never before seen. He made use of Caspar's new and exquisitely finished instrument by which one is able to pass the second catheter without removing the instrument. In the hands of an expert this causes no abrasion of the mucous membrane and consequently blood does not obscure the view.

Relation of Medicine to Pathology.—Dr. Welch then spoke of the relation of medicine to pathology, and gave, in some detail, the essence of the laboratory teaching at the Johns Hopkins. He feels that too much time cannot be spent at the experiment desk for what the student wins in this way becomes a life-long possession. But this laboratory work is in its very essence a study of minutiæ and fundamental general principles must be jealously safeguarded against the inroads of uncorrelated details. To this end he urges that the laboratory work be diligently supplemented by recitation, by lecture and by reading. He felt that the Johns Hopkins was to be very greatly congratulated on the close relationship which existed between the laboratory and the wards. Every student either rents or owns a microscope—his desk for the whole four years is his castle, is his home.

Artificial Fractures.—The section then adjourned to the anatomical demonstration room where Dr. Oscar H. Allis, of Philadelphia, gave a most interesting demonstration of his apparatus for creating fractures and dislocations. This actual observation of the production of the fracture and seeing the broken or dislocated bone subsequently cut out Dr. Allis considers an invaluable aid in the development of surgical sense. By direct downward pressure of the femur upon the fixed pelvis he produced a most beautiful stellate fracture of the acetabulum. This lesion is scarcely recognizable during life. The patient is told he is all right, there is no break only a sprain, and yet disability may exist for months.

Touching their wonderful immunity to fracture which is enjoyed he showed very graphically the extraordinary elasticity of the long bones. In a half dozen consecutive trials the femur sprang fully an inch from its normal line before it fractured. It is known how rare fracture of the neck is in vigorous adults. Dr. Allis demonstrated that direct pressure of half a ton applied between the head of the femur and the condyles failed to fracture at all, increased pressure broke the bone at the shaft's center.

Pancreatitis, with Special Reference to Chronic Pancreatitis.—Mr. A. W. Mayo-Robson of Leeds, England, in a few graceful words thanked the Association for the honor it had heaped upon him. Plunging deep into his topic, at once, he expressed both surprise and pleasure that so much had recently been written on pancreatitis and pancreatic surgery. But, much as may of late have been gained, there is still a very great shroud enveloping the disease and even with our most recent applications of pathological and physio-

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logical chemistry, and in the light of a free and open incision, we are often sadly in the dark as to diagnosis. Ten years ago marked the birth of this last child of surgery. Up to that time the chronic form of pancreatitis was always confounded with cholecystic inflammations, while the acute invariably passed unchallenged in the dark depths of the abdomen. Inflammatory changes which have long been recognized in the bile ducts have their counterpart in every detail in the pancreatic ducts—sometimes jaundice is present, at other times not. It seems strange that while choledochotomy has been done these ten years, we are only just beginning to appreciate that what obstructs the common bile duct also often blocks the outlet of the pancreas.

Etiology of Pancreatitis.—In speaking further of this feature he drew attention to the minute anatomy of the gland. Unlike the parotid it has but little supporting tissue, hence although deeply placed, the slightest trauma may give serious sequelæ—indeed, the gland is probably very often injured in gall-stone operations. Simple and infective pancreatitis exists, just as in the liver corresponding forms of hepatitis are found.

Symptoms of Pancreatitis.—These are as yet but vaguely distinguished from affections of the gall bladder; indeed, when complicated with jaundice one cannot differentiate these conditions. It is, however, generally agreed that an extensive and rapid loss of weight is very significant, particularly in the presence of clay-colored stools. Glycosuria is a tolerably constant symptom, but it appears too late to be of any diagnostic value. Fat necrosis is to be expected, although it is found only after operation; and, since it occurs in other conditions, is not pathognomonic. Lipuria has been cited as an aid in diagnosis, but recent researches show that but little of the accumulating fat passes by means of the urine. As a rule, then, germ infection through the duct, or by contiguity, is the most probable etiological factor, while a sudden loss of weight, with or without jaundice and accompanied by white stools is the most constant symptom. That the pathology of fat necrosis has a very important bearing on the treatment, particularly of the hemorrhagic form will be seen by the history of its degeneration. The fat splits into a glycerine and fatty acid, these unite with the calcium salts of the blood, thus reducing its power of coagulation. Calcium in some form is indicated in heroic doses. The glycerine one would expect to develop an aldehyde, but this is not the case. If the urine in a case of pancreatitis be tested with phenyl-hydrazine singularly arranged yellow crystals appear very constantly. Mr. Mayo-Robson does not yet know their composition, but he suggests that they may be a by-product of the glycerine and finds them of great use in making a differential diagnosis between ordinary inflammatory jaundice and icterus complicating pancreatitis. One very interesting question in connection with this fat necrosis is, if it be the direct result of a blocking of the duct, and absence of the secretion, why is fat deposited in regions so distant from the pancreas, as for example in the myo—and pericardia? Hemorrhage, probably the direct result of the reduction of the calcium of the blood, may supervene at any moment, and cause death very suddenly. It often coexists with cancer. May occur far distant from the seat of operation and gives no prognostic signs of its advent.

Treatment.—The drug treatment consists in the administration of chloride of calcium gr. xxx. three times daily for two days prior to operation and the same amount by enema for two days after. If hemorrhage should begin after operating, it can be controlled and the patient saved by heroic doses of this drug.

Hemorrhagic Pancreatitis.—Much has been said and written about this condition. It is a term suitable only for certain conditions, some of which are as follows: (1) In cerebral disease there is a general tendency to pancreatic hemorrhage; (2) bleeding may occur with, or without jaundice; (3) acute and chronic forms of pancreatitis may occur without hemorrhage. Accordingly we would classify pancreatitis as the acute, subacute and chronic—the hemorrhagic form being only a type of the acute. The treatment of the acute form calls for immediate operation just as urgently as acute appendicitis. Mr. Mayo-Robson usually operates through an anterior incision for this and for the subacute form with a counter incision for drainage through the left costo-vertebral angle. Chronic interstitial pancreatitis often simulates malignant disease, and explains those cases of extraordinary recovery where carcinoma had been diagnosed, ninety per cent. of the chronic cases recover after drainage is indirectly established via the gall bladder.

Dr. George E. Brewer of New York in discussion said that he would deal not so much with the clinical side of pancreatitis but with the surgical anatomy and embryology of the organ. Early in the fifth week of fetal life two buds develop from the middle region of the alimentary canal. One projects upward to become the liver, the other downward to develop into the pancreas. By a process of division and subdivision this bud which projects back into the posterior mesentery gives rise to the two pancreatic ducts, the lower series of buds yielding the canal of Wirsing; the upper, that of Santorini. It has always been held that this latter is closed in 90 per cent. of all cases, but he has found, rather, that it is *open* in 90 per cent. of all cases. From an etiological standpoint this discovery is of paramount importance for it shows the continuous path which exists from pancreas to gall-bladder when the lower common duct is blocked. There are three

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chief variations in the duodeno-cystic opening: (1) They may be double; (2) duct of Santorini may open into the common bile duct; (3) there may be three separate openings. Dr. Brewer then turned his attention to the second special point in his discussion—the direction in which pus from the pancreas most frequently gravitates. Embryology again points out this path and demonstrates why it is so invariable. The history begins with the rotation of the stomach, which forms the lesser peritoneum, and casts three layers of fibrous tissue to the rear abdominal wall. These, being functionless, fuse and ultimately merge into areolar tissue. Thus the pancreas becomes a retro-peritoneal organ and its areolo-adipose tissue becomes directly continuous with the fatty capsule of the left kidney. Among the minor points considered, Dr. Brewer asked whether the hemorrhage of the acute form of pancreatitis may not arise from a sort of auto-digestive action of the pent-up secretions. A final point in the anatomy of this region consisted in a reminder that the papillary opening of the conjoined ducts has in many cases been found to be abnormally large. Paralysis of the sphincter favors ascending infection by bacillus coli communis and he feels that certain forms of pancreatitis may be explained in the same manner as ascending pyelonephritis. In closing he urged the great necessity of loin counter incision for drainage.

Dr. E. L. Opie of Baltimore said that the common bile duct receives the pancreatic duct just prior to its entry into the duodenum. For a short and variable distance the two run in company and separated only by a diaphanous membrane. The cloaco-duodenal orifice is much narrower than the opening of either duct consequently it is the most common lodging point for stones. It can readily be seen that there will be all the difference in the world in the effects of a large and a small stone. The large one closes all three openings, the small stone passing well beyond the opening of the ducts closes only the cloaco-duodenal opening. This last condition was found in a Johns Hopkins case; there was a direct, unobstructed path from liver to pancreas. That bile may be a very important factor etiologically is substantiated by the fact that subacute pancreatitis and death followed the injection of bile into the pancreatic duct in five dogs, consecutively.

Dr. J. W. Elliot of Boston thinks that jaundice is a very common symptom of pancreatitis and believes that gall-stones are its most frequent cause. He cited several cases in which cystic drainage effected cures.

Dr. Geo. R. Fowler of New York cited three important cases. The first had fearful pain; on operation, fat necrosis was marked; there was much thin dark fluid about the pancreas; drainage; death; autopsy confirmed the diagnosis. The second presented to a very marked and alarming degree three distinct attacks of extreme depression. They simulated the profoundest shock. After recovery from the third attack and under strychnine the patient rallied enough for operation. Recovery ensued after prolonged drainage. In the third case only was jaundice present, it had existed for over two years—this man had the characteristic collapses but recovered after drainage.

Dr. H. L. Carson of St. Louis cited a case of chronic pancreatitis in a young woman where the symptoms were so disguised that it was only after two years and several operations that she finally recovered after marsupialization of the gall-bladder.

Dr. W. L. Estes of Easton, Pa., recalled a case which had been operated upon for cholelithiasis. The head of the pancreas had been found to be so enormously enlarged that it was diagnosed as carcinomatous. Nevertheless the patient continues well. Another case was of traumatic origin, followed a slight blow on the abdomen. In this instance the only sign was a tremendous loss in weight from 160 lbs. to 95 lbs. After five weeks a great tumor developed which contained 2,500 c.c. of pancreatic fluid and which discharged copiously during recovery.

Mr. Mayo-Robson in closing said that gall-stones are the great causative factor of chronic pancreatitis although they may have been passed long prior to the operation. Dr. Fowler's series of collapses was of peculiar interest; did he feel that they rallied because of the strychnine? From Dr. Opie's discussion he had learned the very important rôle which may be played by the bile, but is this bile ever sterile? Dr. Brewer's demonstration of the frequent patency of Santorini's duct explains those obscure cases where a stone has blocked the lower common bile duct.

Treatment of Chronic Ulcer of the Stomach.—A. W. Mayo-Robson said that the technic and the daring originality of the modern surgeon has made ulcer in a measure a surgical disease. Of the 25 per cent. which fail to respond to medical treatment in from four to five weeks almost every one should undergo operation. It is from these cases that we reap the appalling death rate which it is safe to put above 30 per cent. There are now quite enough statistics to show that by operation this rate can be reduced to 5 per cent. After enumerating the well known operations for the relief of ulcer Mr. Mayo-Robson said that prolonged preparations directed toward the sterilization of the gastric mucous membrane were quite unnecessary. It is predisposed to be aseptic, aseptic foodstuffs and occasional lavage two days prior to operation suffice. Gastro-enterostomy will doubtless be the operation of choice for many years, because of its low mortality. It secures drainage and rest, it relieves hypochlorhydria, it is curative. He prefers the posterior operation which can easily be done in a quarter of an hour by the use of his bone bobbins. Pyloroplasty, in the absence of adhesions and in the presence of a properly placed ulcer deserves great considera-

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tion. In conclusion Mr. Mayo-Robson demonstrated on cleverly prepared models the use of the bone bobbin and certainly, in his hands they seem well-nigh ideal.

Dr. J. W. Mayo, of Rochester, Minn., spoke entirely on gastro-enterostomy. He prefers the anterior operation, stating that in 63 cases he had had but 1 per cent. of mortality.

Dr. T. A. McGraw of Detroit said that the only possible objection to his method of making anastomosis by means of an elastic ligature, is that it takes from 60 to 70 hours for the ligature to cut through. In gastro-enterostomy this delay is of no consequence. It is the cleanest, safest and quickest method.

Dr. W. G. McDonald of Albany reported two cases in which he thought a more radical operation than gastro-enterostomy would have prevented the development of carcinomata which, within two years proved fatal. The ideal operation is extirpation.

Dr. W. L. Rodman of Philadelphia felt that excision is always indicated in those ulcers which are located anteriorily. Unfortunately they are in the minority.

Mr. Mayo-Robson in closing the discussion thanked the Association for the many courtesies which had culminated in his presenting these papers in America.

Pulmonary Insufflation for the Prevention of Surgical Pneumothorax with Demonstration of New Apparatus for Artificial Respiration.—Dr. R. Matas of New Orleans directed attention to the great importance of intralaryngeal insufflation in place of any variety of face mask. In these there is great danger of filling the stomach rather than the lungs. In discussing the Fel-O'Dwyer apparatus, he pointed out that it failed in two important details; it lacks a manometer, which shall automatically regulate the pressure employed, and a self-acting cut-off to govern the amount of air used.

THIRD DAY—MAY 9TH.

Resection of the Chest Wall for a Large Sarcoma; Successful Use of the Antistreptococcic Serum.—Dr. W. W. Keen of Philadelphia gave the details of this operation in full and in conclusion laid stress on the following points: (1) the method of separating the tumor from the chest wall; (2) the anterior and posterior division of the ribs prior to opening the plural cavity diminishes the danger of collapse of the lung; (3) Fel's apparatus with mouth-piece is unsatisfactory—he prefers the Matas-Bloom device; (4) the suture of the lung to the chest wall was followed by no untoward result and it distinctly diminished postoperative shock; (5) blood examination was of the very greatest value in that it demonstrated a free streptococcus septicemia, and yielded a very clear indication for the administration of antistreptococcic serum.

Venous Aneurism of the Right Subclavian Artery and Vein.—R. Matas of New Orleans spoke of the history of this operation; of some of the grave difficulties attending it and of the more important details of his technic. In all but 15 cases are recorded, but only 4 of these fall in the domain of modern surgery. In all probability it is better not to operate on traumatic aneurisms of the subclavian. The gravest difficulty arises from hemorrhage which Rivington's loop in this case entirely failed to control. The more important technical points were first the use of massive infiltration anesthesia which enabled two hours' work to be done without the need of chloroform, and second, successful lateral phleborrhaphy of the anastomotic outlet.

Dr. A. D. Bevan of Chicago discussed the following questions: (1) Proximal and distal ligation of the artery without tying the vein; (2) hemorrhage from the vertebræ is usual; (3) prognosis in unoperated cases is surprisingly good; (4) gelatine injections may help.

Dr. T. A. McGraw stated that the type of aneurism was the deciding factor as regards amputation. The traumatic aneurisms are stationary; the atheromatous progressive.

The Following Papers Were Read by Title.—Subtrochanteric Osteotomy by Dr. E. H. Bradford of Boston; Operative Indications in Tumors of the Liver with a Report of Cases by W. G. MacDonald of Albany; Congenital Sacrococcygeal Tumor of Large Size by Chas. A. Powers of Denver; Vicious Circle after Gastro-Enterostomy by T. A. McGraw of Detroit; A Case of Splenectomy for Myelogenous Leukemia by M. H. Richardson of Boston; Congenital Anterior Dislocation of the Tibia Treated by Arthrotomy by J. B. Roberts of Philadelphia.

Phlebitis Following Abdominal Operations.—Dr. A. Vander Veer of Albany in speaking of the etiology of this condition expressed surprise that in view of the trauma to which the abdominal veins are exposed during operation it is so uncommon. With no hand to guide or limit its advent or its progress it is always unexpected. None can say of these dread changes whether they are pandemics like grippe, or atmospheric conditions, or gaseous influences. Whether the omnipresent germ or too tight post operative abdominal bandaging have any bearing, it is impossible to say. Immediately after moving into the new Albany Hospital he had four cases in every one of which the primary wound healed by first intention. Since the disease is more frequently seen on the left side the possibility suggests itself that, as in varicocele, the distribution of the left abdominal veins may be a factor worthy of consideration.

Dr. Geo. R. Fowler said that the importance of this lesion varies with the frequency of its occurrence, with its mortality rate, with the duration of resulting disability. In a study of 3,000 of his more recent cases he found that .59 per cent. developed phlebitis. Two were double; ten followed septic appendectomies. He considers

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the more important clinical signs to be as follows: (1) onset never before 10 days to 3 weeks after operation; (2) dull pain over the femoral vein and above Poupart's ligament; (3) rarely begins with a chill; (4) there is often an increased pulse rate with no corresponding rise of temperature; (5) one can palpate the rope-like veins; (6) edema is not marked if the patient stays in bed; it develops on standing. The prognosis for life is good; disability usually exists for from three months to a year. The treatment is as near absolute rest as is possible and counter-irritation. He uncompromisingly condemns the excision of the vein in which ultimately, without exception, the function is completely restored.

Dr. W. J. Mayo cited twelve cases. Three of these had a complication from which the cases of the previous speaker had been free—pulmonary embolism. One died chiefly because of his too strong heart; the pulse of the others became almost imperceptible—this factor no doubt saved their lives. In one-half of his cases the lesion was on the right side.

Operation For the Radical Cure of Umbilical Hernia.—Dr. W. J. Mayo of Rochester in detailing this operation which he has successfully used in 19 cases, said that it seemed particularly indicated in cases where the recti had degenerated to mere fibrous ribbons. He overlaps the fasciæ and frequently closes the wound at right angles to the mid-line. It gives a sense of firmness equaled by no other technic.

Dr. De Forest Willard of Philadelphia cited a case where the patient weighed 300 lbs.; he had successfully operated through eight inches of fat.

Umbilical Hernia.—Dr. J. C. Warren of Boston, in reference to the etiology of umbilical hernia spoke of the diffuse lipomatous fold almost always present in these persons which, in the upright position tugs incessantly at the umbilical cicatrix. He suggested the removal of this layer as a post operative prophylaxis.

Dr. Mayo, in closing, said that he always removed as much omentum as continuously extruded from the wound.

Prevention and Cure of Post Operative Hernia.—Dr. James E. Moore of Minneapolis said that with the modern technic and care in closing abdominal wounds the occurrence of a hernia following operation was something of a disgrace to the surgeon. He said that practically no one in the Northwest now uses any other than absorbable suture material. As to the indications for operation, he feels that it is much easier to give the contra-indications which can now be counted on the fingers of a single hand.

Dr. A. D. Bevan of Chicago cordially endorsed all that had been said in favor of absorbable sutures and favored formaldehyde catgut, which is both strong and sterile. In regard to the position of incisions for abdominal work he felt there was too much disregard to the injury of nerves and blood vessels. As determined by the position of these, there exist certain very well defined normal incision lines—the abnormal lines should be used as little as possible. He mentioned a so-called auto-suture which was being used in Chicago in Bassini's operation. It is a narrow ribbon of tissue frayed from the aponeurosis of the transversalis by which the latter is sewed to Poupart's ligament.

Officers Elected.—At the executive session the following officers were chosen: President, De Forest Willard of Philadelphia; first vice-president, Robert Abbe of New York; second vice-president, R. Matas of New Orleans; treasurer, Geo. R. Fowler of Brooklyn; secretary, Dudley P. Allen of Cleveland; recorder, Richard H. Harte of Philadelphia. The next meeting will be held at Albany, N. Y., about May 20, 1902.

Fractures and Dislocations of the Spine.—Dr. S. H. Weeks of Portland said that dislocation without fracture is unknown except in the lower cervical region. It is usually caused by hyperflexion, the upper part of the spine being almost invariably displaced forward. The so-called facture-dislocations are found in all other parts of the spine. The treatment is in every case immediate and liberal laminectomy, to which there are practically no contra-indications in a pronounced case. Whether the dura should be opened or not is a problem not yet solved, though he feels there are very few contra-indications to opening it.

Dr. John C. Munro of Boston said that the outlook is always bad in these cases. It is the surgeon, not the neurologist, who should decide as to operation. He feels that the dura should always be opened and left open to avoid any possible pressure on the cord.

Dr. S. J. Mixter of Boston favors immediate operation even in the cervical region; he does not suture the dura.

Radical Cure of Inguinal and Femoral Hernia with a Report of 800 Cases.—Dr. W. B. Coley of New York spoke first of inguinal hernia in the male. He emphasized the desirability of absorbable sutures and in addition to other technical points stated that the use of rubber gloves had reduced his percentage of infections from four to less than one-half of one per cent. He has had excellent results in 150 cases of inguinal hernia in the female.

Dr. J. C. Warren of Boston feels that there is too great a tendency to operate on children. It must not be forgotten that trusses frequently cure these patients, even as late as the twenty-first year. He prefers silk to any other form of suture, feeling that it is so bland when buried in the tissues as virtually to be absorbable.

Dr. W. T. Halsted of Baltimore said that for the past two years he had discontinued transplanting the cord. The two most important points in his technic at present consist in the removal from the cord of all superfluous veins and in the use of buried silver wire. More than 500 herniotomies have been closed with silver wire; 25 have suppurated but the sutures had to be removed in two cases only. In 227 appendectomies

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over 1,000 buried sutures have been used, of these only four had to be taken out.

Dr. Coley, in closing, said that he does not usually advise operation after 60. Silk is the least irritating of all non-absorbable sutures.

Pneumonotomy, with Exhibition of the Patient.—Dr. W. J. Hearn of Philadelphia exhibited a case of abscess of the lung which he had successfully drained in the axillary line. He is at a loss to know how to close the sinus since it communicates with a bronchus.

Silver Wire and Electricity in the Treatment of Aneurisms.—Dr. L. Freeman of Denver has had two cases, one of which is apparently cured, while in the other the aneurismal wall has at least doubled in thickness. Not feeling content that Hunter's experiments with the coiling of silver wire in glass bulbs really typified the conditions as they exist within an aneurism, and believing that soft silver wire is better than the drawn variety recommended by Hunter, he hollowed out a large turnip and experimented wiring this artificial aneurism. He concludes that the soft wire gives by all odds the better results, and feels that the best results can be obtained only by the use of over 200 feet in large thoracic tumors.

Dr. J. M. T. Finney, of Baltimore, cited eight cases which he had wired. In two there was apparent cure; in two death was hastened; in two the pain was temporarily relieved; in two the operation was too recent to report. The results may not be immediate. In general he does not look upon the operation with favor.

Dr. De Forest Willard cited a case in which much had been gained by the employment of this method. He employs a very moderate current: 10 20 mille-amperes.

Dr. R. Matas has studied the matter from the standpoint of abdominal aneurisms only. Some of his limitations and conclusions were as follows: (1.) the aneurism should be sacculated; (2.) it should be unilocular and its walls thin; (3.) atheroma contraindicates wiring; (4.) the lumen should be small. These facts, unfortunately, cannot be ascertained during life.

Movable Kidney; Its Cause and Treatment.—Dr. M. L. Harris of Chicago presented an admirable series of tabulated measurements of men, women and children by which he attempted to show that the kidney's position bears a certain definite relation to the body form. He divides the abdomen into three zones, the middle one of which lodges the kidneys. In cases of evident movable kidney the cubical contents of this zone is found to be very much below the normal. This suggests a new and more rational form of treatment, which consists in limiting the area of the lower zone rather than forcing the organ up into an area from which it has been expelled for lack of room.

Nephrolithotomy on Both Kidneys.—Dr. S. J. Mixter of Boston showed skiagraphs of a case in which unusually large deposits had been found. He considered it very unusual that no degenerative changes had been induced by their presence; and that there had not been found the slightest trace of pus or blood in the urine.

New Method of Closing Defect Following Thorough Removal of Breast.—Dr. S. J. Mixter of Boston considers that the smaller the malignant mass the more extensive should be the operation. Feeling that one of the great factors which cause women to particularly dread the removal of a breast lies in the extensive disfigurement he now, by a series of liberating incisions slides the healthy breast over to the middle line, thus closing the entire wound by a single line of union.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, Held March 21, 1901.

The President, Robert F. Weir, M.D., in the Chair.

THE scientific business of the session consisted of a discussion on the modern treatment of gonorrhea and its complications and sequelæ. The following papers were read;

"Acute Gonorrhea," by G. K. Swinburne, M.D., "Chronic Gonorrhea," by John Van der Poel, M.D., "The Complications of the Posterior Urethra," by J. Pedersen, M.D., "Gonorrheal Conjunctivitis," by W. A. Holden, M.D., "Gonorrheal Stricture of the Urethra," by J. R. Hayden, M.D.

All of these papers, by special arrangement, appear in this week's issue of the MEDICAL NEWS.

Treatment of Acute Gonorrhea.—Dr. Robert W. Taylor said that on an occasion like this, when there is a battle royal over methods old and new, a veteran rejoices to be on the fighting line. The treatment of acute gonorrhea constitutes the most important chapter in genito-urinary surgery. There is, unfortunately, in modern times an easily-noticeable tendency to extreme measures in the treatment of gonorrhea. This is not reflected as much as one might expect in the papers read to-night. The general tendency seems to be toward a conservative eclecticism, though, of course, as might have been anticipated from younger men, there is a good deal of talk of the usefulness of the new silver salts.

Some Old Ideas.—With regard to the treatment of gonorrhea he said he has some very emphatic ideas. Years ago the armamentarium of the physician for the treatment of "clap" consisted of the use of antiblenorrhagic internal remedies and the injection of an astringent solution. We have advanced beyond that and perhaps should forget a good many of the things that were recommended rather confidently at that time, but we must not forget too much. It is the custom for the

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physician of the present day to turn up his nose at the old-fashioned "clap" injection and the use of antiblenorrhagic internally. There is no doubt in his mind, however, that in four or five years most of the medical profession will go back to these remedies in a conservatively eclectic way.

Abortive Treatment of Gonorrhea.—Dr. Taylor has never been very much impressed with the abortive treatments for gonorrhea so often highly recommended. In a large practice, extending over many years, he has perhaps seen eleven cases, not more, in which he thought that an acute gonorrhea had been aborted by treatment. For some time we have been passing through what may be called the permanganate stage of the treatment of gonorrhea. Just as many ardent advocates as the permanganate treatment has now, the bichloride treatment had fifteen or twenty years ago. It is scarcely necessary to say that the bichloride treatment is no longer in active use.

Irrigation Treatment.—Contrary to the opinion of many genito-urinary surgeons, he is inclined to think that most of the flushing out of the urethra, especially during the acute stage of gonorrhea, is injurious. The passage of a stream of water under pressure (and the occurrence of some pressure is absolutely unavoidable) is always a source of irritation. The bulging out of the urethra under the pressure of the injected fluid causes injury of the delicate cells of the urethra, separates them from one another, irritates them and gives rise to a certain amount of inflammatory reaction.

Selected Treatment.—For the treatment of an ordinary attack of acute gonorrhea, all sources of irritation should be avoided as much as possible. The penis should be soaked freely and often in hot water, should be washed frequently in boric acid and boric acid and the alkalies should be used internally. The patient should be put at rest and the bowels should be kept loose. After the third day, the penis should be wrapped in warm lead-water and laudanum, in order to relieve pain and burning. A little later in the course of the disease, weak permanganate injections should be given, but not in large quantities, nor too frequently. With the subsidence of the discharge, antiblenorrhagics will be found to do good. They will usually be indicated from the tenth to the fourteenth day, when the alkalies should be stopped. The internal medication must be kept up for some time.

Silver Salts.—The reason why we hear so much about the new silver salts is that the younger men do not realize how to use nitrate of silver properly. They have used it in too strong solutions and have naturally obtained an inflammatory reaction. There is no doubt that the silver salts are very effective bactericides for the gonococcus. Hence the popularity of the new silver salts which do not irritate. We may obtain the good effects of the nitrate of silver without any bad results by using a solution of 1-32,000 or up to 1-20,000. One to two ounces of such a solution should be used at a time. If the discharge becomes slightly more copious and then lessens in amount, but without inflammatory reaction, the strength of the solution of silver nitrate may be increased to 1-10,000 and even to 1-5,000. At the end of six to seven weeks instillations of nitrate of silver in the strength of 1-500 may be given. This will be the ideal treatment of gonorrhea in the future.

Various Astringents.—We hear a good deal said of the longevity of the gonococcus in our day, but we must remember that long ago Ricord said it is easy to know when a gonorrhea begins, but very hard to tell when it will end. Meantime we must not forget that some of the astringent solutions suggested by Ricord, as, for instance, the chloride of zinc solution may still prove of good service, especially toward the end of a case of gonorrhea when the discharge is but slight and other symptoms have practically ceased. A solution of sugar of lead may also prove of service. Not every case of gonorrhea will yield to the same astringent even toward the end of its course. It may be necessary to try several in succession. Under these circumstances a dilute solution of sulphate of copper will sometimes be found useful.

Pathological Basis of Gonorrhea.—Dr. Lapowski said that when we consider the underlying reason of the discharge in gonorrhea we can understand much better the reason why the disease often proves obstinate to treatment. Within twenty-four hours after the discharge is first established the gonococci have found their way into the glands of the urethra. When solutions of protargol are first injected they fail to reach the gonococci concealed in these glands. There are cases of gonorrhea in which the gonococci remain on the surface of the mucous membrane. These can be cured immediately. These cases help to furnish the examples in which the abortive treatment of gonorrhea has been successful. Gonorrhea of the conjunctiva can be completely eradicated. There, of course, we can secure absolute physical and physiological rest for the inflamed mucous membrane. Urination and erection, with the consequent hyperemia, make it impossible to obtain absolute rest for the urethral mucous membrane and so inflammations of it become inveterate. Dr. Lapowski has seen a case in which injections of protargol had been used faithfully for four months, yet gonococci were demonstrable in the secretion.

Complications of Gonorrhea.—The gonococcus is now known to invade nearly every large organ. It has been found on every serous membrane on the body—in the arthritic cavities, in the endocardium and pericardium, in the peritoneum, and on the meninges. It has been known to produce endosynovitis and

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other seromembranous inflammations. The gonococci have been demonstrated in the blood some seven times and have been found on lesions of the heart valves and serous linings in a very large number of cases. It has been found in the spleen and in pure culture in intramuscular abscess and has been known to produce erythema nodosum of the skin.

Gonorrhea and Marriage.—There are some authorities who say that the existence of a purulent discharge in which gonococci can not be demonstrated does not contra-indicate marriage. Other authorities are not of this opinion. The microscopic diagnosis of gonorrhea is not final. There are certain involution forms of the gonococcus which do not take Gram's stain. Wasserman has shown in a recent case that these involution forms occurred on the endocardium and pericardium when ordinary forms of gonococcus were found elsewhere in the system. Only one thing remains to be said with regard to gonorrhea. Prophylaxis is the best method of preventing the ravages which the disease produces upon the human race, and the limitation of reproduction which it brings about. There is no method of treatment that can be trusted with any degree of confidence and in general we know too little about the types of the disease and the reasons for its chronicity for us to say anything very definite about its treatment as yet.

Gonorrheal Auto-Infection.—Dr. Ramon Guiteras said that occasionally fresh discharge is set up in patients who have not been exposed to infection and whose wives are above suspicion. It is evident in these cases that the cause of the disease is a self-infection from old lesions existing in the posterior urethra. These conditions are often spoken of as "strains." They are really rekindling of old foci of disease and the spread of the infectious agents over previously healthy parts. In many of these cases, Dr. Guiteras has found a seminal vesiculitis and this was evidently the source of the new infection.

Gonorrheal Treatment.—The question of treating gonorrhea is, of course, a very difficult one and may be approached from many sides. Dr. Guiteras has seen numbers of patients cured by copaiba and sandal wood when they did not care to take injections. In some cases patients have gone to homeopathic physicians and taken little pellets and yet been cured. There is no doubt that the astringent remedies, zinc, and lead and alum, will continue to be used. Of the newer silver remedies, argol, argonin and protargol, the last seems to be the best. Protargol has given better satisfaction than mercurol. Solutions of silver salt seem to have a specific bactericidal effect for the gonococcus.

Irrigation Treatment.—Irrigations of permanganate of potash have certainly been of very great service in the treatment of gonorrhea. The special precautions to be taken are that the hydrostatic pressure must not be high, and no shock must be given to the compressor muscle. The effort to pass the muscle should be made two or three times at intervals, rather than continuously for any length of time. There seems no doubt that fewer strictures have occurred since the use of permanganate irrigation has become more general. Since the introduction of this method of treatment, however, more seminal vesiculitis has been noticed. This is perhaps due to the fact that our methods of diagnosis have improved and cases of seminal vesiculitis now seldom fail of recognition.

Individual Not Routine Treatment.—Dr. Charles H. Chetwood said that there is too much routine in the treatment of gonorrhea. There are two general methods—the antiphlogistic treatment, which institutes mild measures at the beginning until the acute stage of the disease has passed; and the other, which wages direct war upon the gonorrhea and which may be called the antiseptic method. This latter curtails the length of the disease and lessens complications. It is not its purpose to destroy all the gonococci at one application. The gonococci lying on the surface of the tissues are destroyed and the urethra is made more uninhabitable for the microbes. Irrigations are not for the acute stage of the disease, as they add to the inflammatory reaction by irritation. At first only the anterior urethra should be treated. After five or six days, irrigation of the whole of the urethra should be employed, on the principle that to stop the spread of a fire water should be thrown on a house which is close to the fire. By the antiseptic method of treatment, symptoms are rendered much less annoying. There is less ardor urinæ and chordee and the same lessening of symptoms is noted with regard to the posterior urethra.

Gonorrheal Prophylaxis.—Dr. F. Bierhoff said that no mention had been made of a prophylactic treatment of gonorrhea. This is of two kinds, general and personal. The first requires supervision of the sources of infection, that is, control of the prostitute. Much good can undoubtedly be accomplished in this way, though, of course, the evil cannot be entirely eradicated. The regulation of prostitution should not be in the hands of the police, but of the sanitary authorities. This transfer of authority in these matters would surely result in better enforcement of the regulations. Dr. Frank of Berlin proved that it was possible to prevent the development of gonorrhea by the injection of a few drops of a twenty-per-cent. solution of protargol. Virulent gonorrheic material was injected into the urethræ of six males. Three were left untreated and three were given preventive treatment. In none of the latter three did gonorrhea develop. In the others on the first sign of discharge the abortive treatment with protargol was employed

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and the disease was quickly cured. At Stockholm the experience has been that with a four-per-cent. solution of protargol the disease can be prevented if the solution is employed within ten hours after suspicious intercourse.

Picric Acid in Gonorrhea.— Dr. Hill said that picric acid, as suggested by Guyon in 1899, was a very efficient remedy in a certain stage of gonorrhea. After the frankly purulent discharge has ceased and a mucoid discharge supervened with threadlike fibers in the urine, picric acid is the most effective agent for the cure of the persistent low grade inflammatory condition that remains. The picric acid is used in a solution of 1-100 or 1-200 and about twenty to sixty minims should be introduced at one time.

What Is Gonorrhea?—Dr. F. C. Valentine of New York said that the trouble with the treatment of gonorrhea is that we do not know what gonorrhea is. Urethral discharges are not all of them identical in type even when caused by the gonococcus. There are several forms of gonococci and what we need more than special germicides is the knowledge of methods for the differentiation of the various forms of gonorrhea and the special treatment needed for each form. All cases cannot be treated in the same way; they must be treated individually. There is one thing that is needed in the treatment of all cases and that is exceeding gentleness. Any treatment that causes irritation and pain does more harm than good. Surgeon Woodruff announces that he has had good results in the army, in the treatment of acute gonorrhea, by the irrigation of the urethra for hours continuously with decinormal salt solution. This form of treatment, of course, can only be employed in the army. The use of cocaine has been suggested in order to make the urethra anesthetic for instrumentation and manipulation. Its use has been suggested as a preliminary to irrigation. Any one who has had much experience knows that the result of using cocaine is to cause more pain for a longer time afterward, and what the patient may lose in intensity of pain at the moment the instrumentation is employed is more than made up for by the length of time during which he must suffer afterward. The only anesthetic that a genito-urinary surgeon can employ successfully is that of exceeding gentleness. Experience and practice will soon teach that it is an adequate one.

BOOK REVIEWS.

THE FEEDING OF INFANTS, Home Guide for Modifying Milk. By JOSEPH E. WINTERS, M.D., Professor of the Diseases of Children, Cornell Medical College. E. P. Dutton & Company, New York.

THIS little book is a record of personal experience and the well-known success of the author as a practitioner renders such a record one of value. It is designed as a guide for the home modification of milk. The method of formula is adopted, ten being devoted to the changes required during the first year. Each formula is accompanied by a percentage statement, for it is clear that the author thinks in percentages and takes each step with a very definite idea of what he wishes to accomplish. The one source of uncertainty is that encountered by every similar method of home modification—the errors which must result from the every-varying composition of different samples of milk. Every observer, however, must agree with the author's statement that children can get over slight chemical differences in cow's milk much more readily than they do physical differences—those due to contamination.

In studying the formulæ, one is struck by the fact that the percentages vary decidedly from those used by most writers. The fat and sugar are unusually high; the proteid low, particularly during the first months. Two per cent. of fat is given on the first day and four per cent. in the fourth week, a percentage reached by most authors by the end of the third month. Seven per cent. of sugar is given on the first day. Of proteids, one-fourth of one per cent. is given at the outset, one per cent. being reached in the fourth week and two per cent. in the fifth month.

The low percentage of proteids used during the early weeks is no doubt due in part to the unusually low percentage strength accepted by the author as that of average breast milk, namely, one per cent. The author is very positive in his statements regarding the readiness with which the average child digests these mixtures and, in view of his large experience and close observation, his statements must be considered of much value.

The section on milk equipment for home modification is particularly practical. The same is true of the chapter devoted to the various details of modification and to the importance of securing fresh and uncontaminated milk. The section on infant foods, although not long, is one of the best that has been written upon that subject. The author holds that, tested by the unerring standard of the infant's natural food, no infant food fulfils the conditions required of a substitute. He believes them open to criticism in two particulars—chemical composition, and the source from which they are derived. It is a fact of great importance that milk is purely an animal food, of animal origin; most of these foods are of vegetable origin, and Nature has not endowed infants with digestive power to deal with excess of vegetable products.

The book will prove a useful household guide to infant feeding and will be an effective aid to the practitioner in prescribing diet. The one drawback in the latter case will be the

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necessity of always having the book at hand. Although not extended, the work is a valuable contribution to the much discussed subject of infant feeding, as it is a record of actual experience of a very practical man.

THOMAS SYDENHAM. By JOSEPH FRANK PAYNE, M. D., Oxon. Longmans, Green & Co., New York.

THIS latest volume of the "Masters of Medicine" series, is a veritable glimpse of English thought, customs, and history in the seventeenth century, with a scientific man for a hero. Dr. John Brown speaks of Sydenham as "the prince of practical physicians, whose character is as beautiful and as genuinely English as his name." As portrayed in the pages of this delightful biography Sydenham whose name has always been a synonym for common sense and wisdom in the midst of quackery and ignorance is shown to be a man with a profound and classic education which he applied to the affairs of the nation. Always ahead of his time, and shrewd with the keenness of long and accurate observation he made many guesses at the truths which have only been revealed in the last quarter of the century, and also formulated many theories that to-day are as quaint and droll as they were advanced two hundred and fifty years ago. Certain it is with plague and smallpox and cholera constantly at hand to study Sydenham's observations are interesting seen in this day, and the book of his life, serving as it does, as the foreshadowing of many lines of modern medicine, is a romance and a history in medical literature.

STUDIES IN THE PHYSIOLOGY OF SEX—The Evolution of Modesty, The Phenomena of Sexual Periodicity, Auto-Erotism, by HAVELOCK ELLIS. F. A. Davis Company, Philadelphia and Chicago.

THE following passage from the preface of this book gives Dr. Ellis' point of view with regard to medical sexual matters very succinctly and completely. He says: "The omission of considerations of treatment or prevention (of pathological sexual conditions) at this stage is intentional. It may safely be said that in no other field of human activity is so vast an amount of strenuous, didactic morality founded on so slender a basis of fact. In most other departments of life we at least make a pretense of learning before we presume to teach. In the field of sex we content ourselves with the smallest and vaguest maximum of information, often ostentatiously second hand, usually unreliable. Before we can safely talk either of curing or preventing these manifestations we must know a great deal more than we know at present, regarding their distribution, etiology and symptomatology."

This passage strikes the keynote of the book. The author gives the result of his careful study of certain sexual phenomena that escape general notice. Sexual periodicity, for instance, with a consideration of the annual sexual rhythm and the tendency of the sexual impulse to become heightened in spring and autumn shows how much human and animal nature is in sympathy with the lower physical world around them.

There is an interesting appendix on the influence of menstruation on the position of women. Mr. Ellis discusses the influence of the monthly flow with its usual neurotic accompaniments as constituting certain important elements in the emotional atmosphere through which men habitually view women. In a second appendix Dr. F. H. Perry-Coste discusses sexual periodicity in men. He has shown by work on the rhythm of the pulse that pulse reading arranged in lunar monthly periods and averaged over several years displays a clear and sometimes a very strongly marked and symmetrical character. It would seem, then, that man has a monthly physiological period as well as woman, and the suggestion is made that this is of sexual origin.

BOOKS RECEIVED.

The MEDICAL NEWS *acknowledges the receipt of the following new publications. Reviews of those possessing special interest for the readers of the* MEDICAL NEWS *will shortly appear.*

TUBERCULOSIS AS A DISEASE OF THE MASSES, AND HOW TO COMBAT IT. Prize Essay by Dr. S. A. Knopf. M. Firestack, 200 W. 96th St., New York.

SIXTEENTH ANNUAL REPORT OF THE BUREAU OF ANIMAL INDUSTRY FOR THE YEAR 1899. Washington Printing Office.

TRANSACTIONS OF THE AMERICAN DERMATOLOGICAL ASSOCIATION. Twenty-fourth Annual Meeting. 8vo, 232 pages. Chicago.

A TEXT-BOOK OF GYNECOLOGY. Edited by Dr. Charles A. L. Reed. 8vo, 900 pages. Illustrated. D. Appleton & Company, New York.

EXPERIMENTAL PSYCHOLOGY. A Manual of Laboratory Practice. By E. B. Titchener. Vol. I., Part II. Instructor's Manual. 8vo, 456 pages. Illustrated. The Macmillan Company, New York. $2.50.

HUMAN PLACENTATION. By Dr. J. Clarence Webster. 8vo, 126 pages. Illustrated. W. T. Keener & Co., Chicago.

THE MEDICAL NEWS POCKET FORMULARY FOR 1901. By Dr. E. Quin Thornton. Lea Brothers & Co., Philadelphia and New York.

A SYSTEM OF PRACTICAL THERAPEUTICS. Edited by Dr. Hobart Amory Hare. Second Edition. 8vo, 841 pages. Illustrated. Lea Brothers & Co., Philadelphia and New York.

PROGRESSIVE MEDICINE. Vol. I, 1901. March. Edited by Dr. HOBART AMORY HARE. Lea Brothers & Co., Philadelphia and New York. $2.50.

A MANUAL OF PRACTICAL HYGIENE. For Students, Physicians and Medical Officers. By Dr. CHARLES HARRINGTON. 8vo, 729 pages. Illustrated. Lea Brothers & Co., Philadelphia and New York. $4.25.

THE TREATMENT OF FRACTURES. By Dr. W. L. ESTES. 8vo, 216 pages. Illustrated. International Journal of Surgery Co., New York.

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ORIGINAL ARTICLES.

SOME NOTES ON MEDICAL DIAGNOSIS.[1]

BY WM. N. BERKELEY, M.D.

OF NEW YORK:

ATTENDING PHYSICIAN AT THE GOOD SAMARITAN DISPENSARY; ASSISTANT IN MEDICINE, BELLEVUE UNIVERSITY MEDICAL COLLEGE.

AMONG Montaigne's pithy observations upon the function and work of the physician this passage occurs: The physician "hath neede of many parts, divers considerations, and severall circumstances to proportion his desseigne justly. . . God knowes how hard the knowledge of most of these parts is!"

Sorrowfully acquiescing in the general truth of the concluding sentiment, the practitioner of to-day may yet claim that since this critic's time, some progress has been made in solving the grievous problem of diagnosis. And I have thought that it would not be uninteresting to consider, in a very general way (1) with what spirit that problem should be met, and (2) what practical methods, and (3) what logical principles should be employed in its solution. The extent of the subject and the shortness of our time make it needless to add that the discussion will be fragmentary—a mere outline.

In respect of the spirit with which the medical adviser should come to the bed-side it appears idle to counsel freedom from prejudice. Yet prejudice is a snare which lies privily in wait for even the most experienced. Particularly in family practice, where we have known a patient for years and are in our own opinion perfectly acquainted with his constitutional vagaries, it seems a work of stupid supererogation to go over his organs afresh each time we are sent for. Yet I know of no other way in which to avoid grave error. The one hundredth attack of convulsions may prove to be uremic, even though the previous ninety and nine were certainly hysterical. The three patients first taken ill in the house may have had influenza, and yet the fourth with similar onset a few days later of fever and bronchitis may develop measles. The wise man will therefore come with an unbiased mind to the consideration of his cases and take each purely on its merits.

Disposing thus briefly of the first point, which is evident enough, we may at once take up the consideration of *methods*. This includes (1) the employment of instrumental and chemical aids, (2) and the general mode of procedure at the bed-side. This division is not a strict one, but it will serve our purpose and facilitate discussion.

Instruments of precision in diagnosis have become so valuable in recent times that no one can dispense with the commoner ones; and where the facts to be ascertained are of vital importance, no one *ought* to dispense with the rarer ones as well. The rhinoscope, laryngeal mirror, ear speculum, and ophthalmoscope ought to be familiarly in the hands of every general practitioner. A little serious determination to master them is promptly successful. Any physician should be able to see for himself whether aphonia is due to catarrh, tumor, or paralysis; or whether approaching blindness is consequent upon "choked disc" or albuminuric retinitis.

As to the stethoscope (into the numberless modifications of which there is no time to enter) there will of course be no dispute. But even here there are good and bad patterns; and the bad kinds predominate, with ill-fitting ear-pieces, tubes of capillary bore, and stenoses and dilatations enough to arrest more than half the vibrations of an ordinary cardiac murmur before it reaches the ear. Incidentally it may be observed that (with normal ears) any stethoscope through which a watch cannot be easily heard ten inches from the bell is a bad stethoscope.

The phonendoscope likewise deserves more attention than it has received. While doubtless a specialist's instrument it will well repay all the time the general physician can give it—and that not only in auscultation, but also in the modified method it allows of auscultatory percussion, commonly called "stroking." I have heard many physicians condemn the phonendoscope, who, when asked what success they had had with "stroking," answered with wide open eyes, that they had never heard of it. Some of the prejudice against the instrument may be due to the imperfect imitations of the original with which the market in the United States was glutted some years ago. A good imported instrument can always be had from the American agent in Philadelphia.

The alleged "trouble" in learning how to use it is not a legitimate argument for the man who wishes to be of the greatest possible use to his patients. It is not to be expected that one should, with the inventors, become skilful enough to stroke out the normal outlines of the middle lobe of the right lung. But for feeble sounds, such as the beginning pericardial rub, or the bronchial note over a feebly breathing solid lung, it will be found of great service. And for sensitive chest walls, in women or children, stroking can often be used without the patient's even suspecting what the doctor is doing.

At the same time no stethoscope of any kind should be used often enough to dull the sensitiveness of the bare ear on the bare chest; and

[1] Read before the Jenkins Medical Society of Yonkers and Mount Vernon, Dec. 13, 1900.

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most observant physicians find out for themselves that the unassisted ear (perhaps from the help given by the cranial bones) will often reveal more of the internal condition of the thorax than the best stethoscope.

In respect of instruments of percussion, the pleximeter is not so popular here as abroad. The truth as to its value probably lies between the extremes of exclusive adoption and exclusive rejection. By means of the pleximeter one can map out the various areas of normal and pathological thoracic dulness with much more accuracy and detail than with the fingers. By using a small thin elastic plate of hard rubber one can percuss even over sunken supraclavicular spaces with entire ease. One should, however, train his unassisted fingers with equal care.

It would take us too far afield to do more than mention the sphygmomanometer and the sphygmograph. Both have ardent defenders. Without wishing to deprecate their employment, or to deny that they may in future be applied more practically than at present, it may be said that they have not thus far proved clinically so valuable as they are scientifically interesting.

With the microscope, however, no practising physician can be too familiar. Urinary sediments and sputum examinations of course every one does, but it is very little harder to diagnose one's own diphtheria cultures, make the search for malarial parasites, count the leucocytes in a case of suspected leucemia or leucocytosis, or look for the gonococcus. The diagnosis of tumors requires the additional equipment of a microtome, but if one can possibly find time for the work, he will be richly repaid and may be able unexpectedly to make more than one priceless contribution to pathology. The Widal test probably involves more technical experience than any but a laboratory man can usually command. There are, however, numberless places these days where a Widal test can be promptly done for a small fee; and a slide with a dry drop of blood is all that needs to be sent.

A student of mine recently said, when I proposed to teach him how to examine blood for the plasmodium malariæ, "Oh, I don't care whether I learn that or not; I can always find somebody to do it for me!" I do not, however, conceive that we should do as *little* scientific work as we can, but as *much*.

Furthermore, the chemical examination of urine, cystic fluid, and stomach contents is left to the laboratories oftener than is needful, I think. The quantitative test for uric acid by Hopkins' method is something that any fairly well taught practitioner can do at home with a comparatively small chemical equipment. To diagnose "uric acid diathesis" without it, is mere self-stultification. To know how to determine, if nothing more, the presence or absence of free HCl in the stomach after a test meal is a great gain.

The Medical Director of an Insurance Company in New York tells of an amusing examination for insurance sent in by a provincial physician. In the blank lines for urinary analysis the medical man had written: "This urine throws down with *Fowler's solution* a cloud which I guess is sugar. I suggest that the urine be examined by a specialist." Over which we laugh. Yet many of us are sending to the specialists tests which after a little study are not a whit more difficult than the test for sugar in urine.

The question may be impatiently asked, Where is the time for all this? And, I concede, there are many physicians of unusual intellectual capacity who are weighed down by the responsibilities of a large practice; with whom lack of time is apparently a hopeless barrier. Yet we can point to brilliant examples—the first Austin Flint, Theodore Billroth, William Osler, Hilton Fagge, and a noble army of others—who did not and would not allow the exactions of practice to divert their minds from medicine on its scientific side. It is such men as these who have left their impress upon the science and the art of medicine for all time.

The second division in our discussion is, How shall we proceed at the bed-side?

To say that the successful practitioner is the methodical man seems another platitude. But, unlike the poet, the medical man is not "born," he is "made"; and it is only by patient continuance in methodical well-doing that he will ever work out his ultimate professional salvation. There is no royal road to diagnosis. The short cuts of the "snap" diagnostician, though, when successful, they may convert the unthinking, cannot but make the judicious grieve. The "Visiting" to one of the Children's hospitals in New York not long since heard a baby cough in the corner of the ward. To the wonder and admiration of the House Staff he called, "Bring that child here. It has a retropharyngeal abscess!" And on examination so it had. But we one and all know how rarely such work as this is safe. Patients often suffer with several diseases at once; even if one be externally manifest, there may be another, which it will perhaps tax our utmost capacity to discover. The solemn words addressed to his graduating class by a teacher of medicine known and admired by many of those here to-night are in point: "Gentlemen, you will make mistakes, of course; but your errors will arise far less often because you did not know than because you did not *take the trouble* to give your patients a faithful examination."

As to schemes of examination, they are numerous. Every writer of a text-book on Diagnosis thinks he must invent a new one. Most of them are reasonably good, the one essential being thoroughness. The practitioner should adopt or invent for himself one that is exhaustive, and then carefully habituate himself to it; for, as a wist moralist has remarked, we are safe in the possession of no virtue until its practice has become habitual.

The family and personal history of the patient should, of course, be elicited in minute detail. This is ordinarily, like the giving of ether, a task

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left to the Junior in the Hospital. It ought not to be, for the value of the testimony so given may be critical at some crossing of the ways later on, and to estimate the veracity and intelligence of the patient or the patient's friends requires tact and experience. However, supposing it done as well as may be, we come to the *status præsens*.

The first general inspection should cover the scalp, face, trunk and extremities. The posture of the patient should be noted, the state of his nutrition, and the character of his breathing. Is he cyanosed, icteric, pallid, or flushed? Is he cachectic? Has he any local or general eruptions or scars? Are there any petechiæ on the arms or legs or trunk? He should be turned over and the back examined in the same way. Has he any dilated capillaries on the cheeks, nose or ears? Is there any dropsy? A practised eye will take in all these points one by one faster than they can be called over. We may note next the temperature and the rate of pulse and respiration, and observe the numerical ratios of the three to one another. When examining the radial pulse we should observe at the same time whether there is clubbing or cyanosis of the fingers, or any evidence of congenital deformity. A supernuferary digit may give the needed key to an anomalous cardiac condition, proving the latter to be a congenital malformation, it may be, rather an acquired lesion. Symmetrical onychia tells a solemn story; and, if it occurred acutely in childhood, the patient may be carrying the gnarled and twisted nails with him fifteen years later. One should not be content with counting the pulse and testing the regularity and tension, but should note if it have any of the "water-hammer" character, if it be dicrotic or sclerotic, if it be of the same size as and synchronous with the other radial artery, and if the carotids have a like character of pulsation. We thus rule out chances of deception from anatomical anomaly, and may get a valuable hint of aneurism. The epitrochlear and axillary lymph-nodes should be noticed on the way up the arm, then those on the neck and the groin. And this is the best time to test the deep and cutaneous nerve-reflexes.

Coming to the head, a rigid examination of all its features will be fruitful of information in a dozen ways. One thing often forgotten is observation of the so-called "signs of degeneracy." A good deal of nonsense has been published upon this subject in medical and scientific journals. Prof. Lombroso's results have been successfully questioned (see Ribot's Psychology of the Emotions) by numerous observers. All that concerns us in diagnosis is not, Are the features of the face degenerate or atavistic, but simply, are they ill-formed? Flat, projecting ears with adherent lobes, a prominent ("prognathous") jaw, an acute facial angle, thick lips, defects of the special senses—these things mean for the practical diagnostician that some of the viscera are likely to share in the malformation or at least to possess a lessened resisting power. A few slightly suspicious signs of tuberculous deposit in the apex of one lung appreciate in gravity if the external evidences of degeneracy are marked. Any one who works in a dispensary among tenement people may observe this over and over again.

The significance of sudden falling out of the hair is familiar. In babies the size of the fontanelles and degree of ossification should be observed. Next, the sense-organs should be taken up in order. The ear-drums should be examined with a speculum. If the patient's mind is clouded, or, if he is a child and has an acute pharyngitis, or adenoids, or any of the acute infectious diseases, the examination should be frequently repeated. A timely paracentesis will save the child's hearing in many cases where we now wait until the mother calls our attention to an otorrhea, and then find that occluded pus has damaged the sound-conducting media beyond remedy. German statistics some years ago showed that over 5 per cent. of all cases of acquired deafness in Germany were due to neglected ear-disease in the scarlatina of infancy.

The manifold relations of ocular disease to general pathology are well known. We should at least note whether there is exophthalmos, what is the size of the pupils, their reaction to light, the transparency of the cornea, and the movements of the muscles of the bulb. The ophthalmoscope and a lamp or candle will readily show what the condition of the retina and refractive media is; and the bright white perimacular spots of albuminuric retinitis, the pulsating central artery of aortic regurgitation, the choked disc of cerebral tumor, the presence of tubercles in the choroid—may throw a flood of light on a dark diagnosis. The nose, tongue and pharynx are rarely neglected by any one, but it should not be forgotten that marked syphilitic scars can sometimes be made out only with the laryngoscope. If hoarseness exist or any disorders be complained of which are referable to the larynx, it should be examined without fail.

After glancing at the thyroid and looking for pulsating areas in the neck we may go on to the chest. Of mensuration and succussion nothing need be said. As to inspection, as far as I have observed the work of physicians, it is unfortunately rather neglected. The osseous thorax should be first considered, the curves of the column, the outline and position of each of the spinous processes, the symmetry of the ribs, the presence of a "rosary," the "set" of the scapulæ on the back, the stooping of the shoulders, the depth, width and anterior-posterior diameter of the thorax, the relative size and prominence of the clavicles. Regarding these last it has been my experience that the right clavicle is generally thicker and more curved than the left. If this inequality be exaggerated, it will seriously dull percussion resonance over the right apex—especially in front. When the patient takes a deep breath, asthma and emphysema will often be disclosed in a moment by the slow expiratory collapse of the lung like a punctured balloon, by the fixation of the ribs in inspiration, the "barrel-thorax," and the tense-

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ness of the sterno-mastoid and other accessory breathing muscles. If we are fortunate enough to make out the occasional line of dilated capillaries around the insertion of the diaphragm, we shall be perfectly secure in the same diagnosis without going a step farther. Kyphosis of the spine and rachitic angles in the ribs will often make a nearly flat percussion note even over normal lungs. These conditions should be all noticed carefully before percussion is begun. Litten's diaphragm phenomenon is often of value. A good light and an intelligent patient are the only prerequisites.

The state of the superficial veins of the thorax is something of which very little is said in the text-books. Chronic dry pleurisy with or without disease of the lung, if at all extensive, is apt to bring them into marked prominence. Locally dilated veins also result from chronic valvular disease, and adhesive pericarditis. In congenital pulmonary lesions I have found the surface veins just above the base of the heart often remarkably enlarged. A tumor of the pleura or mediastinum would probably have the same effect. The other visible signs of the circulatory function are equally important. Not only the apex-beat of the heart is often observable, but in mitral and pulmonary disease the action of the hypertrophied right ventricle can be often noticed in the 3d and 4th left spaces close to the sternum. The wavy impulse of dilation is familiar. The pulsating areas caused by aneurism are to be carefully sought for in front and all the way to the lumbar vertebræ behind. The intercostal spaces can be often counted with the eye, and the joint of the manubrium with the gladiolus made out without touching the chest with the fingers. The agitation made by a pulsating pleurisy may be visible. In deep breathing the meaning of entire absence of movement on one side or of a retracted apex needs no comment. The latter sign is often almost pathognomonic of tuberculosis.

Passing on to palpation there are many things too familiar to permit of notice. Palpation should be always done with one hand at a time. Vocal fremitus is far from the only kind one can feel, though there is only time to speak of pleuritic friction fremitus which is often present in dry pleurisy, and is easily made out with the tips of the fingers.

I have studied with unusual care the normal *degree of difference* between the vocal fremitus of the right and left lungs, and have been astonished, as time has passed on, to see how large the excess of vibration on the right side may sometimes be without other evidences of disease. It consequently is perhaps safe to say that no conclusion should be drawn from apparent variations of this excess unless other physical signs are confirmatory. Yet one valuable fact is secure: a *certain degree* of right-sided excess is invariable. If the left fremitus exceeds the right and we can exclude the presence of consolidation, of pleural thickening or a plugging or narrowing of one bronchus, the only remaining conclusion is that heart and liver (or at least the heart) are transposed. Twice in the last eighteen months I have been fortunate enough to prove this on cases of congenital inversion.

In respect of the endocardial murmurs it is a great mistake to use one's stethoscope before applying the fingers over the four points usually designated as points for auscultation. The vibrations of chronically inflamed valves are often palpable and sometimes more readily identified as thrills by the fingers than they are as murmurs by the ear. This is notably true of the familiar presystolic thrill which is pathognomonic of mitral obstruction and may be palpable before it becomes audible at all (Sansom). But the systolic mitral and pulmonary murmurs, and the diastolic and systolic aortic murmurs are also often palpable as thrills, and the sense of touch can be educated so highly to the perception of them that one finally may almost seem to have ears in the tips of his fingers. I believe that it would be a real contribution to physical diagnosis if some one in authority would give this fact its due emphasis.

One further incidental observation. The books rarely mention the anomalies of situation which the functionally normal apex may exhibit. There are several. The most important is the persistence of the infantile position, in which the apex, instead of occupying, as normally, the fifth interspace inside the mamillary line, lies in the *fourth space* behind or close to the nipple. In a majority of these cases the phenomenon has nothing whatever to do with pericardial effusion, as is sometimes stated. It is simply an anomaly, and is entirely consistent with normal cardiac function.

With respect to percussion the principal thing is to do it thoroughly, over every square inch of the lung. An anilin pencil should be used to mark the cardiac area and the upper level of hepatic dulness. The descent of the liver with a long breath should be carefully noted. If it does not descend, the lung is either in an advanced stage of emphysema or it is bound by adhesions. Either fact is vital. The degree of advancement of emphysema should be considered great if the pulmonary resonance extends, behind, as low as the second lumbar vertebra. This sign, if present, will differentiate any case of true emphysema from acute asthma (Leube). It has been noted already that over angles and unusual convexities of the ribs there will be a variably dull note, whatever the condition of the lung. I have seen experienced men deceived by this. Percussion in infants and small children is difficult and deceptive, owing to their irregularly contracting muscles and relatively large viscera. Proper discussion of it would require a separate paper. Unless one has large *postmortem* experience with babies he will do well always carefully to control his percussion by the other physical signs of disease before drawing a conclusion.

In regard to auscultation I must be very brief. In it, I think, physicians are as a rule much more competent and careful than in the other methods.

The great matter, as everywhere, is thoroughness. The breathing, the voice, the whisper, and the adventitious sounds should be systematically noted over all parts of both lungs. If this were done oftener, there would be fewer reports of bronchopneumonia without physical signs. For the average practitioner a safe rule as to cavities is that of Leube—Do not pronounce finally on a cavity till an amphoric echo can be heard, added to the cavernous sounds, or till elastic fibers can be found in the sputum. Other signs may deceive the very elect. Furthermore, for any, except a man with unusual experience, the *cracked-pot sound* is apt to be a mere delusion. Crackles over the margins of the lungs elicited by the first two or three deep breaths and then disappearing, are probably due to temporary collapse, and have no clinical significance.

What will be the ultimate value of the fluoroscope in diseases of the chest is not yet determined. Deep aneurisms and large hearts covered by emphysematous lungs are observable by the fluoroscope when every other means of detection fails.

Passing on to the abdomen, which offers far greater difficulties in exact diagnosis than the thorax, percussion and auscultation are of secondary value, inspection and palpation being our main reliance. After inspection, the abdominal viscera should be palpated in turn, spleen, liver, stomach, kidneys, cecum, appendix, sigmoid, uterus, bladder, testicles and hernial rings. Internal examination of the rectum and uterus may also be needful. No one should omit a single opportunity to palpate all kinds and conditions of abdomens, for nothing but an educated touch will be of any service to us, and to gain an educated touch requires years of practice. The patient should usually be on his back with knees drawn up, arms by the sides, mouth open and breath drawn deeply and regularly. The knee-chest position is sometimes serviceable. The lower margin of the normal liver is always palpable; no one should be content with mere percussion of it. The spleen can be touched by an experienced finger twenty times where a beginner can find it but once. The same is true of the kidneys, and in a less degree of the cecum and appendix. A normal adult spleen is not palpable; a palpable spleen indicates either displacement or enlargement—usually the latter, and it rarely fails to have some bearing on the diagnosis. Neither spleen nor kidneys ought ever to be overlooked. I was once told confidentially by a student of mine, who had been practising ten years and had returned to New York for further study, that he had never felt a kidney in his life till I showed him how to find one. This, I think, reflects as seriously on the medical colleges as it does on the unfortunate individual mentioned. A very little primary instruction is needed to teach medical graduates how to go systematically about the use of their fingers.

An instance or two of careless abdominal work may be briefly mentioned—instances which probably any of the gentlemen here can parallel in their own experience. A lady, long a victim of chronic nervous dyspepsia, came recently to a city man from out of town in a paroxysm of terror saying that her doctor had told her she has "a resistance" in the epigastric region which he thought to be gastric cancer. An examination readily showed that "the resistance" was only a localized contraction of one rectus. Another patient, a man of forty years, recently from Texas, came to me asking advice about a "swelling" in his abdomen. I found he had a monstrous spleen, from the history and the symptoms apparently an ague-cake. During the consultation he spoke of having just had his life insured in a downtown company. I asked how he got passed with such a tumor. His reply was, "Well, the doctor didn't examine my abdomen, and I wasn't going to tell him."

All such cases solemnly emphasize the importance not only of systematic examination of the abdomen in every case, but of losing no possible opportunity of training one's fingers on every patient whom we can persuade to let us make an abdominal examination.

All this done, we come to the urine, which should be examined as regularly as the heart and lungs. Many a physician seems to believe that though his patients are liable to cardiac or pulmonary disease, they bear a charmed life as far as their kidneys are concerned, and therefore a routine urinary analysis is mere waste of time. For these men, no lesson is so effectual as to have one or two of their patients die on their hands unexpectedly of diabetic coma or acute uremia—occurrences which the gentlemen present have heard of as often as I have. To test the reaction of the urine, the specific gravity, albumin, sugar, urea, and sediment, requires about ten minutes—often less; and the time is not wasted!

It is equally desirable to be sure that the blood is normal. In most cases the examination of an Ehrlich "triacid" stain will be enough, except where there is reasonable suspicion of the presence of parasites in the blood—the plasmodium, or the filaria. Whether a Widal test shall be made, or the sputum or stomach contents examined will depend upon the nature of the individual case and—in the phrase of the eminent Frenchman—"the brains of the physician."

The examination of the nervous system should not be forgotten, but it is a more special and technical subject than we have room for here.

When the facts have been ascertained and collected, the third and crucial part of the physician's task is reached—the diagnosis, the *judgment*, the assumption of a cause or causes which shall explain the varying and often perplexing phenomena which his examination has elicited.

Of the logical fallacies which beset this process on every hand time fails to speak. A word, however, may be added about one of the general logical laws on which diagnosis proceeds, the "Law of Parcimony." This law is that "causes are not to be multipled beyond necessity." Yet the rule is not to be too rigidly interpreted. For example,

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enlarged axillary glands concurring with a tumor of the mamma would require us to suppose a malignant mammary growth with glandular metastasis. Yet after removal the growth may prove to be a fibroma and the glands tuberculous. So that we must choose not always the smaller number of causes, but the number of causes that explains the phenomena most satisfactorily. A "satisfactory" explanation is an indefinite term, but nevertheless as the years go by and our experience and study enlarge, we shall be able gradually to increase the number of our "satisfactory" diagnoses, and eliminate the errors of our earlier years. Eternal vigilance is the price. A good rule for the medical man is to send his patients to the surgeon or the *postmortem* room with a *written diagnosis.* He will be often enough laughed at; yet he will gain enough to compensate for the ridicule. And he may console himself by remembering that the surgeons and pathologists, for all their scorn, have fields of labor of their own where they too, like us, are groping in darkness, and only by slow degrees feeling their way to the light.

121 East 26th Street.

THE MINERAL WATERS OF MT. CLEMENS, MICHIGAN, AS VIEWED AND COMPARED WITH THOSE OF EUROPEAN WATERING PLACES.

BY RICHARD LEUSCHNER, M.D.,
OF MT. CLEMENS, MICH.;
MEDICAL DIRECTOR, ORIGINAL SPRINGS BATH HOUSE.

DURING my trip to Europe last year, a considerable portion of my leisure time was spent in the more prominent and renowned watering places of Germany and Austria, with a view of investigating the merits and medicinal virtues of their respective waters, laying special stress upon their study from a chemical, physiological and therapeutic standpoint, and devoting part of my time in obtaining some comprehension of the auxiliary methods in vogue at the various resorts, principally those pertaining to diet and hygiene, etc., in order to compare them with the baths and the methods employed here at Mt. Clemens, and, if practicable, to apply such innovations and foreign measures to the best advantage in fostering and strengthening the merits and reputation of our own salubrious sulpho-salines.

It is universally conceded by medical authorities that the minute and systematic attention accorded to these particular branches of medicine, to physical culture, and to detail work in general, as exemplified in the watering places of Europe, has contributed in no small measure to their fame as health resorts. Having this object in mind and such a task before me, sojourns of longer or shorter duration were inaugurated at Carlsbad, Marienbad, Franzensbad, Elster, Kissingen, Wildbad, Baden-Baden, Homburg, Wiesbaden, Kreuznach, Nauheim, Wildungen, Oeynhausen and Aix-la-Chapelle.

A few of the less important ones were also included, namely, Soden, Ems, Schwalbach, etc. Prolonged stays were made at Carlsbad, Marienbad, Elster and Franzensbad, the longest, however, in Kissingen, Nauheim, Kreuznach, Aix-la-Chapelle, Wildbad and Oeynhausen, some of those cities and towns exhibiting more interest to me on account of their mineral waters, showing an analysis resembling in some respects those of Mt. Clemens, consequently bringing them nearer to or even within the same classification as our own sulpho-salines. At the same time more importance was attached to these health resorts and more attention devoted to them because their respective waters, being principally administered externally in the different forms of baths, owe their fame and reputation to the successful treatment of almost all metabolic disturbances and ailments of the human system, including especially some of those diseases, *i.e.*, rheumatism, gout, skin diseases, diseases of women, catarrhal affections, etc., the cure of which brought prominence to Mt. Clemens and made this resort a formidable competitor. Only a few days of observation and study were given to the more fashionable resorts, comprising Homburg, Wiesbaden, Baden-Baden, Ems, Schwalbach, etc., the throng of "Passanten" and "Curgaeste," seeking these idyllic spots, probably more for enjoyment and recreation, than to indulge in a systematic cure by the application of their effective springs. In all of the resorts mentioned the first thing that impressed me as being most rational and praiseworthy was the observance of a distinct system introduced by the medical fraternity and approved by the authorities in charge of the various springs; and it also occurred to me that, while physicians considered the mineral waters the chief medicinal agent, they did not rely exclusively on the efficacy of the springs, but paid considerable attention to promoting and explaining the feasibility of auxiliary methods and details. The careful physical examination of the patient, of the blood, urine, and, if necessary, the fecal matter; the prescribing of dietary and hygienic regulations, and the absolute refusal to allow any one the privileges of a "curgast" without the examination and consent of a physician, made apparent the exactness of the work. The inhabitants of the different resorts, old and young, inspired by the merit of the waters and success accomplished, seem to idolize the springs and consider them sacred. They ostensibly have perfect faith and confidence in the authorities and physicians entrusted with the management and guidance, who are watching over the destinies of their cities or towns, and all are united in urging visitors and patients to be obedient to the instructions as laid down by the doctors, lest the cure might

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not be as successful as otherwise; and therein lies in a great measure the scientific and commercial prosperity of the European resort. This careful observance of method and detail was particularly noticed in Carlsbad, Nauheim, Kissingen, Marienbad and Oeynhausen.

In the majority of our American health resorts, very little attention is seemingly attached to the importance of auxiliary methods and detailed application. Everybody appears to be enthusiastic and satisfied, commercially and possibly scientifically, with the results so far achieved. American patients in European resorts are models in themselves. The physicians and authorities there have them well in hand, in consequence of their admirable system. American patients in American resorts would be quite as exemplary but for the reason of the existence of unsatisfactory methods or no system whatsoever.

No matter how exact the American physician may be in the examination of his patients and in explaining the importance of dietary, hygienic and other precautions, patients are very apt to transgress and unconsciously break away from the rules and advice given. The whole environment, including the attitude of the laity, leads them to the impression that all that is necessary is to jump into a bathtub or drink enough of the water and Providence will watch over the rest. Should anything unforseen happen afterward, the blame is naturally and quickly attributed to the supposed inefficiency of the waters.

In all probabilities, some of the springs, Mt. Clemens included, would have risen to a higher plane of recognition and earned their scientific standing and success, with the attending prestige in the eyes of the medical world even in a much shorter space of time than they already have, if, at the very inception of the discovery of the therapeutic value, more attention had been accorded the investigation and study of the physiological action and effect and chemical composition of their waters. And, if in addition, the proper steps had been observed in the adoption of a certain subsidiary system pertaining to diet, hygiene, etc., the percentage of patronage and cures would have been vastly increased. What would have been the effect medically, to say nothing about its financial aspects, upon Carlsbad, Nauheim, and all other European resorts of note, if, after their discovery and the introduction of their waters to the world as curative agents, empiricism and commercialism had been allowed to reign indiscriminately, slaughtering and burying all attempts at scientific progress in consequence of a faulty organization and a reluctance and apathy on the part of the authorities and citizens? The result would have been undoubtedly a scientific lethargy, to awaken from which would have presented quite a problem and a difficult if not impossible task. In late years, Mt. Clemens, taking cognizance of the advantages of medical research, has steadily been emerging from a chaos of empirical application, adapting itself to the more modern methods of balneo-therapy, diet, and hygiene, commensurate with the evolution of scientific and commercial progress. This is demonstrated by the yearly additions of new hotels, bathhouses, etc., giving Mt. Clemens renewed hope for further prosperity in the new century. Let us look briefly into the causes that brought distinction and fame to the health resorts of Germany and Austria, and endeavor to compare the same with Mt. Clemens.

Carlsbad was discovered on the occasion of a hunting trip of Emperor Charles IV.—is well known and has been famed for centuries for its healing springs of undoubted medicinal merit. It owes its therapeutic success as a remedial agent chiefly to the systematic ingestion of its thermal waters into the system. Its waters are drunk in prescribed quantities, at specified intervals and at certain temperature, and they are assisted by the application of the different forms of baths, *i.e.*, moorbäder, mineral, electric, sand and gas baths, aided by adhering strictly to a dietary regimen, based upon physiological and chemical observation, individualized and made suitable to the condition of the respective patient. The dreaded and wrongly heralded terrible restrictions pertaining to the cuisine are a myth.

In addition to the auxiliaries, bath and diet, the hygienic resources for the necessary exercise and rest to the mind and body are amply supplied naturally by the beautiful surrounding country, its fine scenery, forest-topped mountains and an atmosphere permeated with ozone; artificially by splendid drives, walks, and parks, gymnastic and electrical institutes (Zander), etc., etc., and artistically by a magnificent orchestra sending forth strains of soothing and enchanting music, with an occasional terpsichorean delight at the casino and theater. The sixteen different thermal springs of Carlsbad of which the Sprüdel and Mühlbrunnen rank first, are the main representatives of the alkalo-saline mineral waters, containing principally sulphate of sodium and potassium, chloride of sodium, carbonate of lithium, strontium, sodium, calcium, magnesium, iron and manganese, some carbonic acid gas, etc., ranging in temperature from 95° to 162° F., with a faint saline taste. They act physiologically by their warmth as they come into immediate contact with the mucous membrane of the stomach and alimentary canal. They thus allay pains and spasms of these organs, stimulate the circulation and glandular secretions, increase the activity of the digestive organs, and change the condition of the blood and derivative secretions (urine, bile, etc.,) by increasing its alkalinity. In consequence it is indicated and recommended in the

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treatment of diseases of the stomach, intestines, spleen, kidneys, and all metabolic disturbances, its fame having spread, however, through its successful treatment of severe liver complications.

Next to Carlsbad, Marienbad in Bohemia enjoys a very creditable reputation, especially in the treatment of obesity, fatty infiltrations of the liver and heart, obstruction of the portal circulation, habitual constipation, chronic catarrhal conditions of the stomach and intestines, etc., its physiological action being more intense than the waters of Carlsbad. In their chemical composition they resemble the Carlsbad waters, are doubly stronger and have a mean temperature of about 50° F. Franzensbad in Bohemia and Elster in Saxony are similar to Marienbad, and are equipped like Carlsbad and Marienbad with all the necessary auxiliaries and methods conducive to the health and welfare of an increasing patronage. Kissingen in Bavaria is also a powerful saline of remedial merit, and is frequented by many patients from all parts of Europe on account of its efficacy in dyspeptic conditions, etc., and has received considerable notoriety through the yearly visits of the late Ex-Chancellor of the German Empire, Fuerst Bismark. Wildbad in Württemberg, a thermal saline, is recommended principally in muscular rheumatism, neuralgias, and as an after-treatment in aiding tedious convalescence, etc. Wildungen in Hessen-Nassau derives its large patronage through the splendid results achieved principally in the successful treatment of diseases of the urinary tract.

Another health resort, favorably known for hundreds of years within the borders of its own land as a healing spring in numerous diseases, has suddenly sprung into significance and gained meritorious recognition throughout the civilized world, because of its carbonated thermal saline waters in balneo-therapeutic application in the eminently satisfactory treatment and successful relief of almost all pathological or functional derangements of the heart, aided by the administration of the famous auxiliary method known as resistance movements, Oertel's "Terrain Curen" and other hygienic, therapeutic and dietetic measures. I refer to Nauheim in Hessen-Darmstadt, near Frankfort on the Main. To the untiring efforts of Drs. Schott, Bode, Grödel and others, in chemical and physiological work upon the waters of their various springs, belong principally the credit in presenting to science the bath system adopted and now in operation at Nauheim. Physiologically, Nauheim water possesses powerful stimulating properties for the nervous and circulatory systems, and eliminates old infiltrations, etc., through its lymphagogic and cholagogic action. Hundreds of Americans and English visit Nauheim each year, not alone for the relief of heart complications, but also for nervous affections, female disorders, rheumatism, gout, etc. Kreuznach and Oeynhausen in Germany are also saline springs of note and Aix-la-Chapelle fastened its hold on the medical fraternity years ago through its successful achievements in syphilitic affections.

In attempting to draw a comparison of the chemical analyses, physiological action and therapeutic efficacy of the European resorts to which I have briefly referred in the foregoing remarks, with those of our own springs, one is confronted with a difficult problem and must admit that it is quite impossible to judge them correctly from the same standpoint or place these remedial agents in the same category or classification. All show a distinct analytical composition; some claim a physiological supremacy and others are again held to be therapeutically superior in the various manifestations of disease. Mt. Clemens also is blessed to a certain degree with these well-defined characteristics pertaining to analytical, physiological and therapeutic qualifications, and boasts of its peculiarily unique balneo-therapeutic merit and success. None of the waters mentioned resemble ours very closely. Some show an analogy, inasmuch as they contain chemical products of the same composition, but not one can present such an admirable array of physiological and chemical strength as the wells of this leading bath town of Michigan give up from the bowels of the earth. Many of these springs are classified as thermal salines with or without CO_2; others come under the categories of the cold alkali salines; again we find in others sulphur combined with alkalies in the form of different salts as the chief agents. Then, again, sulphuretted hydrogen in conjunction with various salts poses as the paramount factor and one or two of the waters display evidence of iodine and bromine combinations. If we should take the waters of Aix-la-Chapelle, Wildbad, Kreuznach, Oeynhausen and Nauheim and mix them together, this aqueous coalition would possibly present analytically most of the elements and ingredients thus far discovered and represented in the waters of Mt. Clemens, the ratio of percentage, however, favoring the American spring by a proportion of 23 to 5. I doubt if there is to-day a spring or well, in existence or operation that can display such a combination of valuable chemical elements in the form of various salts, etc., and in such amounts as do the waters constituting our sulpho-bromo-iodo-salines.

The thorough investigation of these mineral waters conducted in recent years by Mr. John Meyer, chemist at Mt. Clemens, disclosed the presence of most rare and valuable elements known in the science of chemistry and are partly as follows: Sodium, calcium, magnesium, chlorine, iodine, bromine, potassium, lithium, rubidium, caesium, strontium, boron, aluminum, silicon, iron, manganese, sulphur-

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trioxide, and gases of hydrogen-sulphide, carbon-dioxide, and traces of hydrogen-selenide. All these named elements present themselves in the proper quantities to form a combination of their respective salts, of which one of our mineral baths contains about one hundred and twenty-five pounds in solution. Physiologically it is claimed for the waters of the different European resorts that they are exceedingly effective in bringing about the necessary metabolism in the system by stimulating the glandular secretions, hastening cell proliferation, etc., and eliminating waste material, by the process of absorption. It is with perfect justification that they make the assertion. Not alone do their waters, applied externally, impart to the skin the warmth and mechanical stimulus of an ordinary water bath, but also a chemical as well as an electrical one, due to the ionic condition of the mineral ingredients, the carbonic acid, and sulphuretted hydrogen, producing reflex modification of the changes of material in the system.

On account of the high concentration of our own mineral waters, here at Mt. Clemens, holding in solution the various salts, proportionately as found in the human blood (namely, chloride of sodium, chloride of calcium, chloride of potassium, etc.), besides the powerful alterative effect attributed to and produced by the sulphur, iodine, and bromine they contain, and our methods of administering them, we claim practically the same as is claimed for the European resorts; in addition, however, we emphasize the fact that the action is more pronounced and speedy, and the results, consequently more satisfactory.

Writers and physiologists for a long time fostered the idea that no ingredients were absorbed through the skin during the bath, but this teaching is shown to be false by the latest researches of such eminent clinicians and physiologists as Wittich, Gutman, Wolkenstein, and Chernszwesky. They say in substance that the skin is permeable for watery as well as alcoholic solutions, being more energetic, however, with increased temperature. The absorption is carried on in different ways; by diffusion, through the blood-vessels, and through the lymphatic system. Patients will invariably speak of a peculiar salty taste in their mouths, some hours after the completion of a bath here at Mt. Clemens, and experiments by our chemist upon the urine of patients who have completed one week's daily application of our mineral baths with the customary massage, and who have not taken any medication whatever during the time, revealed the remarkable fact of the presence of distinct traces of iodine and bromine. This demonstrates beyond a doubt that absorption has taken place through the skin and resorption into the general circulation. The concentration of the Mt. Clemens salines and the amount of salt substance they hold in solution are certainly not without a distinctive value. When a body is immersed in one of our mineral baths the skin separates two salt solutions of unequal concentration, one being the blood serum, and the other the mineral water proper, and, according to the physical law of osmosis, and ionic action and properties of the molecules, and equalization of the two solutions will be brought about or at least attempted. While one must admit that the skin prevents a direct transudation, an approximation of the two solutions is at least attained, the secretions of the body (blood and intercellular liquids), enter more energetically into the course toward the periphery of the body, thereby establishing an increased lymph-current to those parts. This is in direct evidence that the quantity of the various salts held in solution in this mineral water is of very great importance regardless of the absorption. The more concentrated the mineral water for our purpose, the more energetic and pronounced these phenomena will be in manifesting themselves. Recently, the old theory of value of certain salts, especially common salt, for the maintenance of health and life has been revived by a great many scientists, some going so far as to say that chloride of sodium in conjunction with chloride of calcium and chloride of potassium constitute the vital energy of the blood and its circulation, and are the causative factors in controlling the heart beats. The importance of these salts for the life and function of the blood is conclusive; and in all metabolic disturbances of the human system, including infection, auto-intoxication, nervous, anemic, and toxemic disorders, we find a deficiency of these particular salts. To the absorption of these saline ingredients, and alterative action of the sulphur, iodine and bromine, etc., ridding the system of waste material, and to the stimulation of the nervous and circulatory system by the application of our mineral waters in the form of baths, the balneo-therapeutic value and efficacy of the Mt. Clemens sulpho-iodo-bromo-salines have been amply established. This is especially noticeable in recent years and is sufficiently demonstrated by the increasing patronage of those who seek relief, principally from rheumatic conditions in all its forms, including acute and chronic, gout, arthritis deformans, skin diseases, syphilitic manifestations; diseases of the nervous system; catarrhal conditions of the alimentary canal, etc., diabetes mellitus and insipidus, tedious convalescence, etc. In diseases of women the mineral waters applied in the form of vaginal douches in consequence of traces of selenide of hydrogen, etc., have shown themselves to be indispensable in catarrhal and other conditions of the female genital tract.

The views herein expressed, relative to the merits and conditions governing European resorts and Mt. Clemens, are based on incon-

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trovertible facts as they exist. German, Austrian and European resorts, in general, enjoy the distinction of being conducted on a scientific basis, while at American watering places we are regretfully obliged to admit that there is as yet ground for improvement in this respect.

THE TREATMENT OF CHRONIC PURULENT OTITIS MEDIA.[1]

BY JAMES F. M'KERNON, M.D.,
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IN treating a case of chronic purulent otitis media we should have three objects in view, first, the cure of the otorrhea; second, the improvement of the hearing, and, third, the relief of the distressing subjective sounds, if present.

In the treatment of the discharge the first cardinal principle is cleanliness, and this can be accomplished in one of two ways. If but little discharge be present, and the patient seen frequently by the surgeon, the existing discharge can easily be removed by mopping the parts with sterilized cotton, wound on a cotton-carrier. After the field has been gone over in this way it should be thoroughly cleansed with some comparatively strong non-irritating germicide or disinfectant, and one which the writer has found beneficial is the following

℞ Boric acid.....gr. xx
Sol. hydgrarg. bichlor. 1-1,000..℥ij
Spir. vini rect. ad. oz. 1.....℥j

The parts are thoroughly cleansed with this solution, and any granular surface is touched with a small cotton-tipped probe, dipped in silver nitrate, of a strength ranging from 20 to 240 grains to the ounce of distilled water. This will, in a large number of cases, so stimulate these structures, that by using such treatment two or three times a week, a cure will speedily follow. If, on the other hand, the discharge is profuse, then the patient, or whoever is to care for him, must be taught the proper method of syringing the ear and the treatment carried on by irrigation. Usually a hard rubber ear syringe with a blunt point or nozzle, holding an ounce of fluid, should be used. In the case of young children it is desirable that the syringe be of soft rubber, in order not to irritate the meatus or canal, and in shape should be like a round bulb, with a long drawn out point, through which the fluid passes on its way from the chamber of the syringe to the canal.

A point to be remembered in syringing the ear, and also to be impressed upon the patient or nurse, is to give instructions in all adult cases to grasp the auricle gently between the thumb and fingers of the left hand and draw it upward, backward, and a little outward, thus straightening the meatus and cartilaginous canal, and bringing it on a line with the osseous canal. Otherwise, when we use the syringe, we shall be directing the stream of fluid against the side of the canal wall instead of directly into the lumen of the passage, as drawing the auricle in the manner described will overcome the irregularity at the opening of the canal and allow the nozzle of the syringe to pass into the meatus deeply, with its tip directed downward and forward. In syringing the ears of a child under three years of age, the auricle should be drawn outward and downward, as this position best aids us to overcome the natural curve of the canal at that age. The frequency of irrigation will depend largely upon the character and quantity of the discharge, and at no time must it be allowed to accumulate to any extent in the auditory canal. In an ordinary adult case, it should be cleansed every three or four hours at first, and as the discharge begins to lessen, then diminish the frequency of irrigation to three times a day, or once or twice a day, and later even to every second or third day. In a child it will be necessary to irrigate more frequently on account of the smallness of the canal and the tendency of the walls at the meatus to lie in contact, thus driving back the secretion. In these cases we should irrigate as frequently as every two hours until we notice a gradual lessening of the discharge, and from this point on diminish the frequency to every three, four, or six hours, depending upon the quantity of the discharge that presents itself each day. It is always well to bear in mind that an ear should be irrigated only frequently enough to keep the discharge from accumulating in the canal, as too frequent irrigation serves to soften, make flabby, and lessen the integrity of the parts, thus prolonging the disease. Only a small amount of force should be used in irrigating an ear, whether the case be a child or adult, and we should never use a cold solution, but one tepid, or slightly warmer, depending upon the amount of comfort given to the patient. The quantity to be used at each irrigation varies anywhere from a quarter of a pint to a pint. Rarely is it necessary at one sitting to use more than the maximum quantity given above.

If irrigation produces, as it sometimes does, disagreeable symptoms, as pain, vertigo, or nausea, and these persist, then no matter how profuse the existing discharge, we must cease the irrigation and remove the discharge by frequent mopping and cleansing with cotton. In all cases after irrigation, it is desirable to dry the deeper parts as well as the meatus with cotton.

The various solutions used for syringing the ear have been legion, but only those will be mentioned which the writer has found of value from a clinical standpoint.

[1] Read before the annual meeting of the Medical Society of the State of New York, Albany, Jan. 29, 1901.

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A solution of bichloride of mercury, in strength ranging from 1-2,000 to 1-5,000 in boiled water, is the solution most used, and the one from which we obtain the best results at the present time. A solution of value, and one largely used to-day by the general practitioner, is that of boric acid of the strength of 20 grains to an ounce of boiled water. As a cleansing solution it answers the purpose very well, but taken from a disinfecting or germicidal standpoint, it leaves much to be desired.

A solution of carbolic acid in sterilized water of the strength of one or two per cent. was formerly used. In obstinate cases, a weak solution of formaldehyde, 1-1,000, is often of service, owing to its active germicidal properties, but even in this strength it has to be discontinued many times, owing to its irritating qualities, and if continued should be used in a much weaker form. A solution of permanganate of potassium, half a dram of the liq. potass. permanganas in from four to six ounces of sterilized water, is often used to abate the discharge, on account of its strong disinfecting properties, and at the same time it acts as an excellent deodorizer when we have a foul smelling discharge to treat.

When a certain amount of exfoliated epithelium is found in the discharge, accompanied by a roughened condition of the canal walls and a roughened and excoriated condition of the meatus, we have found of the utmost value a one-eighth per cent. alcoholic solution of salicylic acid of the strength of from one to two drams of the solution in four ounces of sterilized water, the acid here having a marked healing effect on the excoriated tissue. For simple cleansing purposes, a tepid solution of plain sterilized water will be all that is needed.

In a few of the cases coming under our observation, where the so-called irrigation treatment has been used, they become perceptibly worse, and the discharge increases instead of lessening. When this occurs, the patient, or whoever is caring for the case, must systematically use the dry treatment just spoken of above, in order to obtain the beneficial results desired.

In order to save the patient's clothing while using the irrigation method, we should always have held by the patient beneath the ear, a kidney-shaped hard rubber or agate ware basin, to catch the discharge coming from the canal. These are easily obtained and come in all sizes. As soon as the discharge begins to lessen perceptibly the congestion and swelling gradually subside and the structures slowly regain their normal appearance.

In all cases when treatment is begun, a thorough investigation of the upper respiratory tract should be made, and, when these structures are found involved in a catarrhal process, we should direct our treatment to the cure of these pathological conditions as well as caring for the ear alone, for, if these conditions be neglected, we may temporarily help the aural conditions, but exacerbations will occur from time to time, owing to the lack of proper treatment in the nose and nasopharynx; especially should we always search for any lymphoid hypertrophies, and if found their removal is imperative at once, as well as the removal of any other obstructive condition which interferes with a normal nasopharyngeal function.

When the drum membrane has been destroyed over a considerable area and we find the inner tympanic wall exposed and presenting a mucous surface that is swollen, congested, and covered with mucus, or only slightly moist, then we must stimulate this surface by applying solutions to the mucous membrane lining the internal tympanic wall. The solution giving the best results is one of silver nitrate, applied in varying strengths, beginning with a weak solution, as ten grains to the ounce of distilled water and increasing this strength, as indications arise, to 240 grains to the ounce, or even as high as 360 grains to the ounce, when a rapid effect is desired.

A point of value in applying the silver solution may be mentioned here, and that is, care should be taken not to touch any portions of the canal walls or other parts of the tympanum except the particular area we wish to stimulate, and this can be accomplished easily by exercising a little care in preparing the cotton tipped probe. It should not be large or bulky, but small, having only the tip dipped into the solution, and all residue pressed from even this before introducing it, as otherwise the normal tissue will be smeared over and an excessive irritation caused by its coming in contact with such tissues. Other solutions used with beneficial results are varying strengths of the zinc and copper salts, of the latter, usually a two per cent. solution is the one most frequently used.

As the discharge becomes lessened and the patient is seen less frequently, a solution to be used at home should be given, composed of the following ingredients:

℞ Boric acid .....gr. xx.
Sol. hydrarg. bichlor, 1-1,000.....℥ij.
Absolute alcohol to make.....℥j

Five or ten drops of this solution placed in the ear twice a day at first, then later once a day, and, as the cause for stimulation becomes less, every second day, will act admirably, not only as a stimulant, on account of its alcoholic properties, but as an antiseptic, due to the presence of the boric acid and bichloride solution in preventing the formation of further granulation tissue. The method of placing this solution in the ear can be accomplished easily, by one of two ways. Either a dropper can be used, or the requisite number of drops can be placed in a small spoon, then warmed, if desired, and poured into the auditory canal,

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the head in each instance being held well over to the opposite side. If any residue remains after one or two minutes, it can be removed by turning the head in an opposite direction thus allowing the liquid to escape.

When the discharge is markedly persistent and the above applications fail to bring about a satisfactory result, the writer has found of benefit the use of the so-called Powell's solution, which consists of the application to the diseased surface of a solution of pure carbolic acid. This is allowed to run into the canal, the head being held in a horizontal position until the auditory canal is nearly filled. It is retained in this position from thirty to sixty seconds, and then the canal is quickly syringed with a solution of absolute alcohol. In this way the alcohol counteracts any escharotic action which the carbolic acid would have upon the normal tissues, and the diseased parts are stimulated and cleansed at the same time. By this treatment excellent results are obtained in many cases that would not yield to the ordinary methods in vogue.

A question may be asked as to the amount of pain involved in this procedure. It is very slight, as the carbolic acid is an anesthetic and the quick after-application of the alcohol causes the patient to complain only of the ordinary stinging sensation usually experienced, in a mild degree, upon the application of this liquid.

In all cases under treatment we should, after thorough cleansing of the canal, direct the patient to perform inflation by the Valsalva method, so as to drive out from the middle ear any retained secretion that may be present. Should they be unable to do this, then gentle inflation by means of the catheter should be practised, and the secretion thus displaced be removed before our final application is made to the surface to be stimulated.

The practice of instilling oil of any kind into the canal should not be countenanced, as it forms a media for the development of vegetable fungi of various kinds, and when once these conditions form along the canal they are exceedingly irritating and difficult of a rapid cure.

As to the use of hydrogen peroxide in the auditory canal of a patient suffering from chronic purulent otitis, there is a wide diversity of opinion. Some authorities report most brilliant results from its use, both by syringing the canal freely with it, and also instilling it into the canal, claiming when so used it cleans out the small cavities by displacing retained secretions, which otherwise would not appear without the use of this agent. I believe, however, we have other means at our command that will do the work quite as well, without exposing the patient to the risk of displacing and driving backward through the *aditus ad antrum* this retained secretion into the mastoid antrum, and thus exciting an inflammation of this structure by the infection contained in the displaced secretion, for it is very plain to be seen that such secretion, when displaced, can travel this path quite as easily as any other, and the writer has seen several cases of purulent otitis under treatment, doing fairly well, when it was thought advisable to use this fluid, to hasten matters if possible. Where no sign of mastoid involvement had previously existed, under the use of this fluid, a distinct mastoiditis developed, and in four cases the mastoid had to be opened. So, from observation and personal experience, I am opposed to its use. Under no circumstance or conditions should we in this disease either early or late put a large quantity of powder in the canal and allow it to remain there, for it becomes moistened and later forms a crust, thus preventing what we wish to avoid, namely, a damming backward of the secretion, and the practice of supplying a patient with a quantity of powder to use by himself cannot be too strongly urged against, as many times he will use it and drive the secretion backward by crusts forming firmly over the point of perforation, and this acts as a barrier to the future drainage of the middle ear, as well as subjecting the patient to the danger of mastoid and other intercranial involvement. After the discharge has been reduced to a minimum amount, so that it only moistens the part, then we can use with much advantage some of the many antiseptic and astringent powders by insufflating a small quantity over the moistened area. The powders more commonly used here are: Boric acid, aristol, acetanilid, nosophen, zinc oxide, iodol and alum. Iodoform was formerly used extensively, but has been largely discontinued, as it is very unpleasant for both the patient and surgeon, on account of its peculiar odor, and it often gives rise to a most distressing dermatitis. Dermatol has also been used, but possesses no particular curative effects. In many cases where the discharge is intractable and comes from the attic region, the use of the intratympanic syringe is of the greatest value, as by its use we can introduce solution of various strengths, upward and backward, beyond the point of vision. The writer has used a small glass instrument of varying sizes, with short or long tip and broad end fitted closely with a rubber similar to that of the pipette. These little glass pipettes are made in almost any size and the tip can be made at any angle one wishes. They are easily handled, neat, clean, inexpensive and contain for treatment all the way from one to twenty drops of the fluid which is usually a solution of silver nitrate.

In cases where we find a large amount of granulation tissue present, we proceed to destroy this after first cleansing the canal and area to be destroyed. If the granulations are

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only moderately large we can easily destroy them by means of chemical agents. The two agents of this character most used are silver nitrate and chromic acid. The surface to be cauterized is first dried and then upon a metal probe a bead of either of the above agents is fused and applied carefully to the granular area. Care should be taken not to smear these agents over adjacent parts, and all excess or residue should be mopped up with a cotton pledget. The actual cautery has been recommended as admirable for the destruction of these granulations, but its use here is altogether too difficult of application when we have at hand other means equally as good and much easier to apply.

After cleansing the area to be cauterized we should apply to the granular surface about to be destroyed a solution of cocaine hydrochlorate, of a strength from five to ten per cent. This application can be made by soaking a small pledget of cotton in the cocaine and carrying it with the forceps directly against the surface we wish to anesthetize, or we can apply it by means of a cotton-tipped probe, and hold it against the surface for a moment or two until the anesthetic effect has taken place.

If this preliminary be carried out in these cases, there will be but little or no pain experienced by the patient during the destruction of this exuberant tissue, and this in itself is a factor to be taken into consideration, for no one likes to suffer pain when it can be so easily avoided. When the granulations are larger and polypoid in character, their removal is best effected by means of the wire snare. The loop of the wire is passed over the growth and carried backward and inward to its attachment and the growth is cut off in this way by the successive turning or screwing of the thumb-piece of the snare, thus tightening at each turn the loop of wire surrounding the growth.

As a more rapid means of removal, a sharp curette is preferred, and this can be passed quickly into the canal at the side or beneath the growth and carried backward to its point of attachment, which is usually a rather firm pedicle. When this point is reached, the curette is raised and manipulated so as to partially twist the pedicle around the shank of the curette, having the sharp curve of the instrument rest upon the superior or upper surface of the pedicle. The curette is then pressed inward against the surface from which the growth springs, the pedicle is severed close to its attachment, and the growth is removed at the same time the instrument is withdrawn. Cocaine should always be used previous to their removal, in order to relieve the patient of as much pain as possible. An adjunct of great value, at our command in the removal of these growths, is an application to them (and particularly at their base) of a solution of suprarenal capsule. Following is the formula used by the writer:

℞ Adrenals (Armour Desic.).....3i
Acid boric .... grs. xvi
Aq. cinnamomi.....3iv
Aq. camphoræ cal.....3i
Aq. dist. cal., q. s. ad.....3ii
M. Macerate for four hours, filter.

The use of this solution enables us to remove large growths, and what would otherwise be a bloody operative case is rendered practically bloodless by the use of this fluid. It should remain in contact with the tissue to be removed for at least ten or fifteen minutes prior to the operation. Our after-treatment is also greatly facilitated by its use, and now we are enabled to cauterize the base left by removal of the growth without continually going over the surface for several minutes with cotton pledgets, trying to staunch the blow flow before we apply our cauterization. Many times, by the old method of removal, without the use of the suprarenal extract, the cauterization of the base had to be left for a second sitting on account of the free hemorrhage existing.

For the first twenty-four hours after the removal of such a growth, it is well to pack the canal loosely with a strip of plain sterilized gauze. This acts in a two-fold manner. First, it prevents any marked secondary hemorrhage, as sometimes occurs after the use of the suprarenal extract, and, secondly, it acts as a protection. It should, however, always be removed the day following. If the patient is not to be seen for a few days, under no condition should the canal be packed, but if much discharge is present, the patient should be directed to use the irrigation method for a few days, until the discharge diminishes sufficiently, or until the patient again comes under the observation of the surgeon for further treatment. In all cases where exuberant granulations or polypi have been removed from the auditory canal and middle ear, the subsequent treatment is carried out on exactly the same lines as that already mentioned, *i.e.*, keeping the parts sterile and clean, stimulating from time to time as needed, and later when the discharge diminishes, the use of the drops, before referred to, twice a day.

If, after an ear has been treated in this way for a period of ten days or two weeks, the discharge is still present, and there is a marked tendency to a reformation of the granulation tissue, then it may be said with a degree of certainty that we have to deal with dead bone farther back, and no time should be lost in its removal.

Aspergillus is quite frequently found just within the meatus, on the canal wall, on the remains of the drum membrane, or on the exposed internal tympanic wall where the ear has previously been the seat of a purulent inflammation and its presence may mislead us into thinking that the ear has begun to discharge again. The cause of this is the presence of this

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fungus at one or more of the points just mentioned. It develops slowly in the beginning when it lodges upon the surface, owing to a lack of moisture, but later, when even a slight amount of moisture comes in contact with it, the growth is a rapid one, and the discharge given out from it is often offensive and accumulates around the meatus.

The treatment is simply keeping the parts clean by the ordinary method, and scrubbing the surface all over with a cotton-tipped probe dipped in the alcoholic solution, previously mentioned, and the insufflation of just enough finely powdered acetanilid or boric acid to cover the surface from which the fungus grows. A few treatments like this will suffice to clear up the condition as well as to relieve the excoriations caused by the discharge at the meatus.

In all cases of purulent disease of the middle ear, where, upon examination, we find the drainage insufficient we should lose no time in enlarging the opening through which the discharge is passing, and many times it is desirable, instead of enlarging the old perforation, to make a free incision through the drum membrane at some other point to facilitate more rapid drainage. This is particularly imperative when the discharge emanates from the lining membrane of the middle ear, and we find it being inadequately drained. It is in these cases that the subsequent use of the middle ear syringe is of the utmost value, as after a thorough cleansing of the tympanic cavity we can introduce the stimulating or astringent solutions, and a sufficient quantity should be used each time to completely fill the tympanic cavity. The fluid will often pass through and down into the Eustachian tube, but this will do no harm, provided the solutions used are not too strong, and rarely should we use a solution of silver here at first stronger than 1 per cent. If the case be a persistent one, this intratympanic syringing should be practised each day until the discharge is perceptibly lessened; then every second day, and later less frequently, as twice a week.

When a small amount of discharge continues despite all treatment and the parts upon inspection look indolent, the method suggested and practised by Blake, fitting a small sterilized piece of very thin paper over the opening existing, will often heal these perforations, if in no other way than by the mechanical irritation set up by their contact with the indolent surface. In applying these paper discs, after they are approximated closely to the drum membrane, they are gently pressed around their edges so as to adhere firmly. After they have been satisfactorily approximated, a small amount of powdered acetanilid or boric acid is dusted over their surface. Such a dressing will remain in place from two to eight days, and when the parts are again inspected we find the disc, though still adherent to the drum membrane, has gradually worked toward the edge of the drum, exposing a part or the whole of the perforation, while little or no moisture is present. A second disc, sterilized in the same manner, is now placed over the opening, leaving the primary one undisturbed, and partially overlapping it. Usually two or three such applications serve in a large number of cases to completely stop the discharge and close the opening. The protection given by the disc, no doubt, hastens the changes taking place in the pathological mucous surface of the middle ear.

To improve the hearing after we have cured the discharge is the next step in the treatment of this disease. When marked destruction of the tympanic membrane has taken place and the ossicles are bound down by adhesions, we usually get a marked diminution in the function of hearing, unless we later divide the adhesions existing, and this procedure can be quite easily carried out after the discharge has ceased, and will be followed in many cases by a decided improvement in audition. Some of the cases thus subsequently operated upon show no improvement, but the large majority do improve, and for this reason we should not fail to give this part of the treatment a fair trial. Personally I have seen only two cases out of a total of twenty-four that did not improve under this procedure.

It is usual in an ordinary case for the hearing to improve when the discharge ceases, and here as an aid to restoring the function of hearing we use the ordinary method of inflation and vaporization of the middle ear, as it prevents the excessive formation of adhesions, and when these adhesions have taken place, it tends to stretch them, as well as stretch and make more pliable that portion of the drum membrane still intact, and also exerts the same influence, to a greater or less degree, upon that part of the drum membrane which is forming anew.

This method of treatment should, if possible, be carried out three times a week at first, and, as improvement begins to take place, the frequency should be diminished, according to the indications present in each case. In many of these cases during their convalescence, and after the discharge has ceased, there will be complaint made of a most distressing tinnitus, and one which does not clear up even though the frequent inflations spoken of have been practised. Here the administration internally of small and gradually increasing doses of the potassium iodide will be followed by a marked relief in a large number of cases. Begin with five grains three times a day, gradually increasing the dose until the relief is secured. Usually when the patient has taken about ten grains three times a day for several days, this symptom will gradually diminish, and in a fair number of cases will disappear altogether. Its action no doubt is due to its stimulating properties, and this causes an

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absorption of a small amount of exudate or recently formed deposit within the middle ear.

If any decided labyrinthine involvement is already present, then, of course, the severing of the adhesions above spoken of is contra-indicated from the standpoint of any improvement.

In all cases in which upon our first examination we discover intratympanic caries existing, it is useless to attempt a cure of this condition except by an operation on the middle ear for the removal of this pathological condition, or when a case has been systematically and persistently treated over a period of from three to four weeks, with little or no improvement, a most careful examination with the probe should be made under cocaine anesthesia; usually we will find an area of carious bone as the cause of the continuance of the symptoms.

When caries is found we then have the choice of its removal through the canal, or by the opening of the mastoid process and doing a Swartz-Staacke operation. If the case be one in which there is no evidence of a mastoid involvement either past or present, it is much better to remove the caries through the canal and not subject the patient to the unpleasantness of a prolonged convalescence as well as an unsightly scar for the rest of his life. The caries can always be removed through the canal, care being taken not to injure the facial nerve, and the canal packed with plain sterilized gauze, removed each day for three or four days, and replaced; after this the ear will need to be irrigated only once or twice a day for a week or ten days, and in two weeks from the time of the operation we should have a case in which the discharge has ceased and one requiring only a slight amount of care and treatment to improve its functions.

Should there be any evidence of mastoid involvement at the time of operation, by no means should we operate through the canal, but by the posterior method.

Regarding the prognosis for hearing in these cases, we should never promise them that the hearing will be improved, but that it will be as good as before the operation, but clinical experience teaches us that a few do improve markedly, but they are usually in patients who are under twenty-five years of age.

In all cases coming under our observation for treatment, we should never lose sight of the fact that we are medical practitioners first and specialists second, and all cases, when indications demand it, should have general building up and tonic treatment in order that the local condition may improve the more rapidly. This will result if the patient receives a surplus of nutrition through the medium of the general system, and many cases which to-day are chronic, had they had the building-up process when first attacked by the local disease, would never have been prolonged into this less hopeful stage.

62 West Fifty-second Street.

TUBERCULOSIS OF THE IRIS.

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TUBERCULOUS affections of the eye, especially of the iris, the ciliary body and the choroid have claimed the attention of the medical world much more of late than formerly. The true nature of affections of this kind has been known only for the last thirty years, and yet there are many interesting cases of this kind on record.

The close connection of diseases of this kind with pulmonary or general tuberculosis makes their early recognition a matter of supreme importance, and great credit is due to efforts of many European writers, such as Leber, Schieck, Langhans, Cohnheim and others and to Dr. Chas. Bull of this country for their researches in regard to the true nature of these dangerous diseases of the eye.

Tuberculosis may affect, of course, nearly any part of the eyeball, yet the iris and the choroid are much more frequently invaded than any other part of this organ and affections of the former will claim our attention especially to-day. The starting point of the tuberculous iritis may be in the iris itself or in the ciliary body or the choroid, but very soon it spreads from the one to the other and the entire eyeball or at least its inner parts are apt to become involved. It is sometimes a primary, but usually a secondary affection and may be divided into two classes, the solitary and multiple form, and the latter may be divided again into an acute and chronic kind. This division is partly due to the number of tuberculous deposits to be found in the iris, partly to the clinical difference of the attacks and partly to its connection with tuberculous affections of other parts of the body.

As a rule, it is a disease of youth or early middle life and only one eye is affected in nearly every instance, in which respects it differs from tuberculous affections of the choroid, which as a rule, are of the miliary form and attack both eyes at the same time. The first class to be described comprises those cases which are usually connected, more or less directly, with tuberculous disease of the general system, not necessarily of the lungs however, but may be associated with tuberculous affections of the meninges, the peritoneum or the kidneys. The disease generally assumes a more or less acute form at once, as characterized by the formation of one or more grayish nodules developing in the iris tissue, consisting of inflammatory products with a small number of bacilli and is marked by the early appearance of ciliary injection and is accompanied by intense pain in the eye and forehead; many synechiæ form; the eyeball becomes

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red and painful to the touch and the disease resembles in many respects an acute attack of rheumatic or specific iritis. But the tuberculous deposits, which were in the beginning like small, grayish bodies, soon become larger and more vascular and appear of a reddish-brown color. They are apt to coalesce and eventually break down, forming a large, soft, brownish mass projecting into the anterior chamber. The pain is often so intense that an enucleation of the eye may be called for on this account alone. The vision becomes impaired early and the pupil fills up with exudative matter, and firm adhesions of the iris to the lens form early in the course of the disease. The aqueous humor is cloudy and mixed with broken down tuberculous matter. If the disease is not interfered with the cornea may break down on account of contact with the tuberculous deposit and a large ulcerating surface with numerous blood-vessels in it is formed. These may give rise to hemorrhages and discharge considerably. The entire eyeball becomes filled with tuberculous matter and even the orbital tissues may become involved; on the other hand, a shrinking of the eyeball may take place after the perforation of the cornea. This form, therefore, even in milder cases results in great impairment or total loss of vision or in destruction of the entire eyeball, and not infrequently the death of the patient is brought about by similar simultaneous attacks of the meninges, or lungs, or by a direct extension of the disease to the brain.

Another form of tuberculous disease of the iris, which is not so violent in its onset, and in which there are probably not so many bacilli present in the deposits, occurs usually during the earlier stages of pulmonary tuberculosis. It is characterized by the appearance of multiple, generally more than one or two, tuberculous deposits in the iris. This form is accompanied by some pain and photophobia and more or less invasion of the pupillary border of the iris, which in turn leads to the formation of the posterior synechiæ.

This disease, which was first described by Leber, runs a much slower course than the first form. It may last for many months, and the iritis may be entirely relieved if the general condition of the patient improves, or it may result in occlusion of the pupil with eventual shrinking of the eyeball. These tuberculous deposits are usually isolated, yellowish in color and they rarely coalesce; they become vascular after some time and may remain in this shape for a long period. Sometimes absorption of the nodules appears to take place and, if the pupil remains well dilated during the course of the disease and is free of inflammatory deposit, the eye may retain a fair amount of vision. There is usually but little ciliary injection and not much change in the appearance of the eye during the course of the disease.

The third form is a more serious one and usually leads to great impairment of vision or loss of the eyeball. It manifests itself in the shape of a single tuberculous deposit, situated at the bottom of the anterior chamber, projecting into the aqueous humor, and involves the ciliary body frequently from the onset. It is very painful from the beginning and is associated with photophobia and lacrimation. Adhesions of the iris to the lens are most frequently found at the lower half of the pupillary border; later the pupil becomes narrow and is often occluded by exudation and this naturally results in great impairment of vision. The pupil may eventually yield to the action of strong solutions of atropine, but the lower half of it is usually firmly adherent to the lens. As the tumor develops it presses on the cornea, which in that case will soon break down. This will lead to the loss of the eye. The eye, as a rule, will have to be enucleated, but sometimes it may undergo a phthisical degeneration. However, even this form of the disease, which usually affects young people at the age of puberty, or during childhood, may sometimes yield to treatment, and partial recovery of the sight may be obtained.

It may seem strange that in all the cases which come under my observation the left eye was always the diseased one, but this seems to be the experience of other observers likewise; nor have I seen a single case in which the disease attacked both eyes at the same time, not even in the form of a sympathetic ophthalmia. Of course this does not refer to cases of miliary tuberculosis of the choroid, which as a rule attacks both eyes, usually at the same time.

The treatment of affections of this kind should be directed to the tuberculous condition of the system in the first place, and here the usual remedies, for instance, creosote in large doses or the use of Koch's tuberculin would recommend themselves to us. But on account of the iritis or iridocystitis, which is nearly always present, the most energetic treatment for this complication must be promptly resorted to and here the use of an atropine solution, four or six grains to the ounce of water, is of the greatest benefit, as it not only tends to relieve the intense pain and the photophobia, but also leads to a dilatation of the pupil and prevents the filling up of this space by exudation. This in turn helps to retain some vision to the eye during the attack and lessens the danger of great impairment of vision should the patient ultimately recover from the disease. Ice-compresses are not always grateful to the patient and as a rule hot water applications give more relief. Especially is this true when the cornea becomes involved during the course of the disease. Leeches to the temporal region are usually not indicated, because the patients are apt to be in poor health and cannot afford to lose any great amount of blood. Yet in acute or rapidly progressing cases, especially if associated with meningitis, the use of three or four leeches applied to the temporal region may relieve the intense pain and congestion of the eye. Even morphine may be given if the patient is in great pain and if very restless at night. On account of the

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local use of rather strong solutions of atropine to the eye, of which more or less is absorbed, fairly large doses of morphine may be given with impunity, even to children.

In regard to operative treatment, an iridectomy, including the tuberculous deposit, may be thought of, if the latter is confined to only a small portion of the iris and the rest of the iris-tissue is in fairly healthy condition. But even under these favorable conditions the prognosis should be very guarded, as the disease may reappear shortly after the operation and lead to a rapid destruction of the eye. If there is any broken-down tissue present in the anterior chamber this should be carefully washed out at the time of the operation by means of a very mild solution of bichloride of mercury; but this fact, that the contents of the anterior chamber have become infected, should be a caution not to operate at all. It is therefore a safe rule that, if the tuberculous iritis does not show any signs of improvement after the usual internal and local remedies have been tried, and especially if the disease appears to be progressive in spite of them, the complete removal of the affected eye must be resorted to. Even if the enucleation of the eye does not always prevent an infection of other organs of the body, yet it may at times save the life of the patient by removing the principal cause of danger; even if other organs of the body are already affected and the chances of saving the life of the patient be very slight, the removal of an eye, blind from the effects of the tuberculous disease, may be called for, if the pain is very severe and robs the patient of sleep and strength.

I here present the histories of three cases which I have seen in succession in order to illustrate the three forms just described.

Case I.—Mary N., nineteen years of age, living on Staten Island, had a very sore left eye for which she was treated by a colleague, who had recognized the disease and had advised the removal of the affected eye. This procedure, however, was strenuously objected to by the entire family, including the patient. I saw the case a few weeks later. The patient had been obliged to go to bed and I found her in a greatly debilitated condition, with fever and indications of a beginning tuberculous meningitis and an invasion of the lungs, probably of a miliary type; the apices of both lungs being involved. The eye itself was intensely inflamed and she suffered the most agonizing pain day and night. Photophobia was very marked; she had to be kept in a very dark room. The cornea was a little hazy and in the iris tissue three moderately large deposits of light yellowish appearance, with some vascularity, were found; the pupil was irregularly dilated, and partly filled with exudation and there was no perception of light. This latter fact and the intense suffering of the patient made it desirable to remove the eye, which was done under ether. The patient felt greatly relieved after the removal of the eye, as the local attacks of pain had disappeared, but the meningitis ran its usual course and in a little more than a week the young girl died of tuberculous meningitis. The formations seen in the iris of the enucleated eye proved to be tuberculous deposits.

Case II.—A young man about twenty-three years of age. His eye became badly inflamed during a stay in the Berkshire Hills, where he had gone on account of an annoying and debilitating cough which had troubled him during the spring of 1899. The case was seen by an eminent specialist in the neighborhood and was later, on his return to the city during the latter part of the summer, referred to me. The left eye showed signs of an old inflammation and in the iris tissue four small, yellowish deposits could be seen. There was a mild form of iritis which had evidently existed for some time, for there were not only several synechiæ but also some small brown deposits on the anterior surface of the lens where former adhesions had been torn loose. The sight of this eye was fairly good $= {}^{20}/_{70}$; that of right, not implicated eye was about normal. The ciliary injection was not marked and the pain had never been very great. The patient denied all specific trouble of any kind and the disease had not been affected by large doses of iodide of potash. There was dulness of the apex of the right lung and I ordered creosote and cod-liver oil after the futility of the iodide treatment had been shown. The eye improved considerably shortly after this and the patient went back to the mountains. Two months later he returned on account of a slight relapse of iritis, but this improved after the usual local treatment had been instituted and his sight improved to ${}^{20}/_{40}$. The pulmonary trouble was not very bad and the patient was of a cheerful and hopeful disposition which was evidently greatly in his favor. He went out of town again and I have not seen him since. At the time of his last visit the tuberculous deposits of the iris were perhaps a little smaller and the iritis had subsided promptly after the usual treatment.

Case III.—The last case was that of a young Italian lad, about twelve years old, who had been treated at some of our dispensaries for several weeks on account of a badly inflamed left eye. The boy was rather pale and anemic and all the glands of his neck were very much enlarged. He suffered from intense pain and photophobia and the eye was very much injected, especially around the lower half of the cornea. This latter part of the eye was fairly clear, but the aqueous was a little hazy; the pupil was partly under the influence of atropine and the upper part of it was free and dilated. but the lower half was firmly adherent to the anterior capsule of the lens. The iris was somewhat discolored and from the bottom of the anterior chamber a small, narrow tumor projected upwards into the anterior chamber. It was yellowish brown in color and surrounded by some blood-vessels at its base and was perhaps two to three m.m. high and one to two m.m. broad.

The patient was brought to me because it had

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been proposed at the hospital to remove the eye. After the energetic use of atropine, the pupil began to dilate even below, having only two firm adhesions which could not be torn, and on the anterior as well as on the posterior lower half of the lens an opacity was revealed which was evidently due to inflammatory deposits of the iris and ciliary body. The posterior opacity ran up almost as high as that on the anterior surface of the lens. As the upper part of the iris appeared fairly normal and the vision of the eye proved to be like $^{20}/_{200}$ after the full dilatation of the pupil, and as the interior of the eye was fairly clear and the optic disc, as far as could be seen, was apparently normal, I decided to resort to medical treatment before operating and ordered a strong solution of atropine locally and ten drops of creosote in cod-liver oil three times a day and a generous meat and milk diet. I did not see the patient for two weeks after this and by this time a great change for the better had taken place; the tuberculous deposit, for such I took it to be, had shrunk considerably, and the posterior synechiæ were very much thinner. After two more weeks there was hardly any trace of the growth visible, but the synechiæ and the deposit on the anterior and posterior lens-capsule were still present. There was no pain and no photophobia; the glands of the neck were less swollen and the general health of the child was very much better and he had discarded the dark glasses I had given him. Of course there is some doubt as to the true nature of the disease as long as no inoculations of the suspicious deposits on rabbit's eyes were made, but as idiopathic iritis in children is so extremely rare and as the mother of the last patient had died of phthisis and as the action of creosote appeared to be so very favorable, and as there were no signs of either acquired or congenital syphilis, and as there was no history of any injury or rheumatism, the tuberculous nature of the disease was more than probable, in spite of its favorable termination.

MEDICAL PROGRESS.

Biological Determination of Human Blood.—A. DIEUDONNÉ (*Münch. med. Woch.*, Apr. 2, 1901) injected blood obtained from human placentæ, strongly albuminous urine and pleural exudate subcutaneously in gradually-increasing doses into rabbits. Several days after the final injection, venesection was done and the serum tested with small quantities of blood from various sources. Only in the case of human blood a distinct, flocculent precipitate could be obtained. It differed little whether the serum was obtained from the rabbits treated with blood, urine or pleural exudate.

Perforation in Typhoid.—This accident may be divided into two stages, the perforation itself, and the consecutive peritonitis. A majority of the cases occur early in the third week. After citing three cases of laparatomy for perforation, with recovery in one case, death during operation in another, and in the third a healthy bowel wound but subsequent death from toxemia, WILLIAM OSLER (*Proc. Phila. Co. Med. Soc.*, Feb., 1901) throws out the time-honored picture of perforation, the Hippocratic facies, the feebly running pulse, the profuse sweat, distended, motionless abdomen, as that of peritonitis and an omen of death. That perforation may be recognized early enough for surgical aid, he directs the nurse to give notice of any complaint of abdominal pain, hiccough, vomiting, sweating, rise of pulse or respiration, or signs of collapse. The physician should note whether the pain is an aggravation of slight abdominal pain, or sudden, intense, and, though relieved by stupes and ordinary measures, recurring in paroxysms and growing worse; whether diffuse or localized, in hypogastric or right iliac region, and its radiation (as to penis in one case at Johns Hopkins). Abdominal pain of severe character may mean acute pleurisy, cholecystitis, distended bladder, packed rectum, or may follow an enema. Note whether abdomen is flat, scaphoid, or distended, and if the last, whether uniform or chiefly hypogastric. Are the respiratory movements present, uniform, and seen both below and above the navel? On palpation, note the tension, tenderness, locality and extent and degree of pressure necessary to elicit muscle rigidity and spasm, absence or presence especially in hypogastrium and right iliac fossa. On percussion note whether liver-flatness is diminished even in a flat abdomen. On auscultation listen for friction-sounds, or obliteration of peristaltic signs. Examine rectum for tenderness and for fulness between rectum and bladder, and note character and frequency of stools and presence of blood or sloughs. The facies may show a changed expression, slight or marked risus, pallor, sweating, etc.; the pulse may change in rhythm, rate, and force. Note whether temperature drops or not, whether respiration suddenly increases or becomes infrequent, whether shallow or sighing. The leucocytes should be counted every hour and are either stationary or rising. The red-cell count and hemoglobin will distinguish from hemorrhage. These points noted make the diagnosis possible in many cases, and then no time should be lost in giving the patient the benefit of operation. As typhoid patients bear operation well it is better to err in favor of surgery than to let valuable time be lost in waiting for further confirmatory evidence.

Fracture Bandages.—F. BAHR (*Centralbl. f. Chir.*, No. 12, 1901) considers the following little technic exceedingly valuable in preventing displacement of fragments within the plaster-of-Paris splints after reduction has once been made. While one assistant makes the extension and after the fragments are apposed, another assistant passes loops of rather wide bandage about the limb, one just above and a second just below the point of separation. Having taken the ends

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of each loop in either hand he gently makes traction in opposite directions in the plane of greatest former displacement. This maneuver holds the bone-ends together while the plaster-of-Paris bandage is carefully applied. A window is necessarily made at the points where the slings above described emerge, which are later bridged by wooden splints over which the ends of the loops are tied, each on its own side maintaining the pull. In this manner all tendency toward recurrence of the deformity is checked. The procedure has one hazard, which is easily avoided if a little care is exercised, it is that of making the ties too tight over the soft parts. After an extended application of this plan he has never seen any such difficulty arise.

Ox-Serum in Rectal Feeding.—O. GRUNBAUM (*British Med. Jour.*, Apr. 6, 1901) outlines some of the advantages to be obtained from this form of alimentation. His observations have been on women, gastric ulcer being present in a number of the cases. Starting with the proviso that the patient must have the equivalent of about 2,000 calories, he has proceeded by a very careful series of observations to show that from ox-serum in minimum doses she absorbs the maximum nourishment. She requires about 85 grains of proteid, 40 of fat and 320 of carbohydrate. To the serum he adds glucose and milk, with liquor pancreaticus. Some of the advantages of the serum are its constant amount of proteid, its small cost, the ease of its preparation and the odorless character of the stools. His formula, given every four hours, is as follows: Serum, 90 c.c.; milk, 60 c.c.; glucose, 15 gm.; liquor pancreaticus, q. s. By giving a cleansing enema just prior to each injection, he has been able to note the relative rates of absorption. Fat is not taken up kindly by the colonic and rectal mucous membrane; starches or glucose are readily assimilated and, if not stronger than 15 per cent., are well retained and do not irritate. The heat of this diet is 578 calories. He increases it 300 calories by the subcutaneous injection of sterilized olive oil, from 30-40 c.c. being given daily. By these methods he finds the loss in weight can be reduced to 750 grains a week.

Arteriosclerosis and the Heart.—The cause of arteriosclerosis in young or middle-aged people may be due to the influence of heredity so that the arteries prematurely show their tendency to degenerate. B. ROBINSON (*N. Y. Med. Jour.*, Apr. 27, 1901) further believes that it is not necessary to find alcoholism, gout, lead or syphilis, as a causative factor, but continuous overwork, poor assimilation of food and irregular habits of life may also be determining factors. Renal disease may be only secondary, but is frequently, no doubt, a direct cause. It is in this diffuse form among middle-aged vigorous men that we find the greatest degrees of cardiac hypertrophy. Senile changes rarely cause hypertrophy of any degree. The essential change is in the small arteries where a thickening occurs due to the hyaline degeneration of the muscular layer. In mitral stenosis a sclerotic condition of the pulmonary veins is not uncommon. High tension may exist without sclerosis, but it is then variable. When it exists in a continuous persistent manner it is usually due to sclerosis. While heart stimulants, as strychnine, strophanthus and digitalis, are often indicated, potassium iodide in moderate doses for long periods is the most useful drug and should be prescribed with occasional interruptions.

Tobacco and Glycosuria.—Very little is said in works upon diabetes about the causative relation which tobacco holds to glycosuria. H. STERN (*Med. Rec.*, Apr. 27, 1901) has reported four cases in which this influence was carefully watched. By experimentation it was found that the use of from five to ten cigars during the day would increase the glycosuria at least from one to two per cent. In one case in which a percentage of 1.35 continued under an antidiabetic diet, the cessation of the free use of tobacco resulted in a permanent disappearance of glucose from the urine. Nicotine is not believed to be the offending agent for nearly all of it is decomposed by heat. As the empyreumatic compounds and acrid substances have their chief influence upon the mucous membrane their importance in this connection is also considered slight. Carbonic oxide gas is here thought to be the most poisonous matter contained in tobacco smoke and largely responsible for the mellituria. The amount of CO evolved is not only dependent upon the quality of the tobacco, upon its moisture and combustibility, but also upon the mode of manufacture and consistency. Pipes do not seem to be so injurious for oxidation is here more free. In non-lethal CO poisoning the glycosuria lasts only a few days and the sugar excreted does not usually amount to more than 1.5 per cent. When resulting from the use of cigars the glycosuria persists as long as the causative factor continues.

Extreme Simple Anemia.—A very marked case of simple anemia is reported by R. FLOYD and W. J. GIES (*Med. Rec.*, Apr. 27, 1901) in which the blood showed upon the first examination: Hemoglobin, 12 per cent.; red cells, 750,000; white cells, 3,300. The principal symptoms were dyspnea, with attacks of palpitation, vomiting, diarrhea and sometimes edema. She was started on sulphate of iron, gr. xxiv, and arsenious acid, gr. $^1/_{10}$, in twenty-four hours. Her symptoms very rapidly disappeared and at the end of the fourth week the hemoglobin was 45 per cent.; red cells, 1,568,000; and white cells 5,600. The variation in size and shape which was so noticeable at first had almost entirely disappeared. At the end of the ninth week, hemoglobin, 97 per cent.; red cells, 3,796,000; white cells, 7,000. The ferrous sulphate was increased to grs. xxxix during the latter part of the illness and seemed to be very well borne. Another case which proved to be pernicious anemia is compared with the above. The analysis of the

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blood showed hemoglobin, 22 per cent.; red cells, 756,000; white cells, 4,800. Only one normoblast was found and the poikilocytosis was not more marked than in the first case. In spite of energetic treatment she died within one week. The analyses of the blood in these two cases were very similar and from these alone diagnosis would have been impossible. The clinical features which were significant were, the age of the first, nineteen; of the second, sixty-four; no cachectic color in the first, marked in the second; a rapid response to treatment in the first, no response in the last.

Treatment of Penumonia in Children.—It is believed by L. FISCHER (*N. Y. Med. Jour.*, Apr. 27, 1901) that pneumonia may sometimes be aborted by the use of one-drop doses of aconite repeated every hour for six doses, with spiritus mindereri hourly until diaphoresis occurs. Calomel should be given in small, frequently repeated doses till liquid stools are passed. Water should be given freely for the diaphoretic and diuretic effect. Antipyretics should seldom, if ever, be used. The cold tub or pack is especially valuable and for stimulation to the skin and heart the cold tub may be advantageously alternated with a warm bath. Vigorous rubbing should be kept up. Oxygen should be freely given in the form of fresh air and, if drafts are prevented, it is much better to have the windows opened. To relieve a hacking cough and give sleep, codeine in doses of one-tenth of a grain may be used if necessary, but should not be repeated often. Feeding is an essential element in the treatment, especially in the prolonged bronchopneumonia cases and the addition of a small amount of whisky is thought to be of assistance.

Bovine and Human Tuberculosis.—Having noted the excess of virulence of the bacilli of bovine tuberculosis over those of human origin, R. R. DINWIDDIE (*Bulletin* 63, *Arkansas Agricultural Experiment Station*) performed experiments with the following results: Cultures from human sputum caused in pigs a chronic tuberculosis with emaciation. Cattle proved very resistant and in no case was a progressive or even permanent infection obtained. Sheep were more susceptible than cows as evidenced by persistence of the tuberculin reaction and larger local lesions, but suffered no impairment of general health. Toward cultures of bovine origin all three species proved highly susceptible. The writer concludes that stabling, as it causes the breathing of vitiated air, may account for the increased susceptibility of these animals to the naturally-acquired disease, over their susceptibility to inoculation.

THERAPEUTIC HINTS.

Diabetes Mellitus.—If sugar continues in the urine even in abstinence from all carbohydrate food, including milk, says GEORGE DOCK (*Physician and Surgeon*, Mch., 1901) the case is severe and the food must be increased to prevent inanition. Some starchy article, such as bread or potato, may be added in small quantity, gradually increased. If there is a large amount of sugar, carbohydrates must not be cut off suddenly, but gradually for two or three days; if the sugar is small in amount the carbohydrates may be stopped at once. Then gradually ascertain the tolerance for bread, potatoes, other vegetables, sugar, beer, etc., so that the dietary may be made as wide as possible. Milk (not skim milk), fat in all forms (as cream, bacon, oil, butter). Cheese, etc., can be used with great advantage. When there are evidences of intoxication foreboding the dreaded coma, give at once large doses of alkalies, as much as 13 grams (200 grains) daily. Small doses meet with failure. Some should be given intravenously as well as by mouth.

Syphilis.—VERRIER reports the use of the serum of Jeltschinsky of Moscow, which is not of the nature of an antisyphilitic serum, but which seems to modify and stop the inroads of syphilis. He has met with much success in fifteen cases, one of them a case of pregnancy, with both father and mother seriously infected, and in which under these inoculations a non-syphilitic child was born.—*Le Progrès Médical*, Mch. 23, 1901.

Hyperemesis of Pregnancy.—J. W. MCLANE advises complete rest, in bed, have all food given by the nurse, and keep patient's mind away from the stomach. Matzoon, c.c. 4.0-8.0 (℥i-ij) is easiest borne, then gradually add peptonized milk, beef tea, preferably unsalted, eggs, and raw oysters. An enema containing tincture of opium a few drops, and brandy 4 c.c. (℥i) is good. Examine the uterus and if anteverted or retroverted or bound with adhesions, tampon with boric-acid vaseline or glycerin gauze. If the vomiting cannot be stopped anesthetize, scoop out ovum with the finger, curette, douche, and insert a gauze drain.

Intertrigo.—The opposing surfaces must be separated by lint, the furrows kept clean, and all freely dusted with starch, talc, lycopodium or other powder. Zinc oxide, boric acid, or other astringents may be added, especially compound stearate of zinc. As a rule, powders are better than ointments. Lassar's paste or lotions such as calamine lotion, or saturated solution of boric acid may be used.

HARDAWAY recommends:

℞ Thymol. .....gm. 0.06 (gr. i)
Pulv. zinci oleat. .... 30.0 (℥i)

In infants the treatment is that of eczema. The breast-milk or other milk must be investigated, and water must be kept from the skin. In male children a tight prepuce may cause dribbling of the urine with constantly wet diapers. Cod-liver oil is often a good internal remedy.—*G. T. Jackson in "Diseases of the Skin."*

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SATURDAY, MAY 25, 1901.

THE REORGANIZATION OF THE AMERICAN MEDICAL ASSOCIATION.

FOR a number of years past it has been becoming very apparent that the American Medical Association under its present Constitution and By-laws is an extremely ill-knit and unwieldy body. The crudity of its early construction is now too manifest and the recent steps of the committee of reorganization are deserving of special consideration.

The two greatest integral faults with the early plan of organization have been the method of delegate representation and the lack of a coherent scheme of allied associations in the several States. The number of delegates has been too many, business affairs, medical politics and medical legislation have been in large part ineffectual, because of the unwieldly character of this body and the heterogeneous character of the affiliated societies has prevented anything like a comprehensive and coordinate association with a unity of ideas and purposes.

To obviate the confusion caused by the number of delegates the Committee proposes the establishment of a House of Delegates. This body is to undertake the business of the Association and is to consist of members from the State Association, the apportionment being one member in the House for 500 in the State Association. Inasmuch as there is thus far no regularity concerning State associations the committee outlines a plan of organization by which the county associations become the integral parts of the State Association without any increase of dues.

We cordially endorse the report of this committee and believe that a way is offered by which the A. M. A. may be made a more representative body which shall deserve the respect of the entire medical profession. By the general terms of the report many of the objectionable elements, especially those relative to the politics of the organization, will be eliminated and we second the hope of the Committee of Organization that "If the Association will give its sanction to these recommendations, there will be good reason to hope that in five years the profession throughout the entire country may be welded into a compact organism, whose power to influence public sentiment will be almost unlimited, and whose requests for desirable legislation will everywhere be met with that respect which the politician always has for organized votes. With the Association in constant, personal, definite, and essential touch with each State medical society, and through them with the societies in every county, the profession of medicine can at no distant day demand and receive that respect from lawmakers, from government officials, and from the general public to which it is admittedly entitled by reason of its ideals, its education, and its power for doing good to all mankind."

LIFE INSURANCE AND CHRISTIAN SCIENCE.

AT the instance of a correspondent the MEDICAL NEWS wrote to all of the regular old line life insurance companies, asking what steps, if any, had been taken with reference to the acceptance of risks of individuals who professed to believe in the unadulterated doctrine of Christian Science. Further what was going to be their attitude toward the claims of those dying in the faith. With but few exceptions the companies have maintained a discreet silence.

While we may not be interested in what happens to the individual who pins his faith to the doctrine of the non-existence of disease and pays the penalty which nature metes out with relentless irony to all those who ignore

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the general laws of experience, it is important that the insuring public and more particularly, from our own point of view at least, the physician, should know in what manner the Life Insurance Companies intend to protect his interests by a careful scrutiny of its risks. Bad risks, if accepted by such companies, mean diminished returns on an insurance investment and since the protection of its policy holders is the foundation of any company's success some expression of opinion on this point is their duty.

It is therefore a sign of awakening on the part of insurers to the importance of the situation that a mutual benefit association in New Jersey has taken radical steps to protect its more enlightened members.

"In denying insurance to the dangerous fanatics of whom the 'Christian Scientists' are the best known variety," says the *Times*, "the New Jersey Grand Council of the Royal Arcanum has taken a stand that is open to criticism only because it was not taken long ago. Every other organization of the same character ought instantly to imitate the example thus set, and delay in doing so simply subjects to unjustifiable risk the property rights of the sane members of the societies. 'All persons,' to use the words of the resolution adopted by the Grand Council in explanation of its course, 'who reject, refuse, or neglect the aid of medical science are a very dangerous risk from an insurance standpoint.' That is an unquestionable truth, clearly stated. Since the 'Christian Scientists' deny the existence of disease and of death itself, the commonest sort of consistency demands that they voluntarily get out of the mutual insurance organizations, allow their policies in the regular insurance companies to lapse, and carefully refrain from stultifying themselves by taking out any new policies. If they will not do this—and of course they won't, as consistency is something they know nothing about—compulsion should be applied exactly as the Royal Arcanum has applied it. A little discipline of the same sort, used in this and other directions where it is needed, would tend to bring back to their senses all the believers in 'faith cure' except those whose insanity is irremediable, and there are not many so far gone as that. The follower of any one of these delusions is not a safe person with whom to have either business or social relations. The means of applying pressure are numerous, and as soon as sensible people begin to utilize them 'Christian Science' and all the allied or identical humbugs will be dissipated as rapidly as are other filth-laden miasms by the attack of good fresh breezes."

We feel that we can add little to the expressions here quoted but we would like to compel the regular insurance companies to enunciate the stand that they have decided to take in this matter. A concerted inquiry from physicians and particularly those contemplating the purchase of new policies would undoubtedly bring about an expression on their part as to how they are going to protect our interests.

PANCREATITIS: ITS ETIOLOGY; SYMPTOMS; TREATMENT.

THE paper of Mr. A. W. Mayo-Robson of Leeds, England, merited all the wealth of applause it won the author at the recent meeting of the American Surgical Association in Baltimore. Outlining, as it did with the utmost clearness, the pioneer work of this great surgeon on an organ which is virtually the last of the abdominal viscera to surrender its virginity, so to speak, to the exploring knife, it marks the crest of the last great wave of surgical progress in this region.

Mr. Robson considers two factors as of ultra importance in the etiology of pancreatitis. The first, and by far the weightiest, is infection ascending by way of the duct, the second depends for its import on the excessively delicate network which holds the gland together. This is infinitely frailer than the corresponding stroma of the parotid, and, albeit the pancreas is so deeply and so centrally placed, there can be little doubt that abdominal blows of the very mildest character often wound the organ sufficiently to create the gravest kind of inflammations.

As yet, there are no pathognomonic symptoms of pancreatitis. Clinically, in the absence of tuberculous infection the most constant although by no means an invariable sign is the well-known extraordinary loss of weight. This takes place, in the classic cases, with appalling rapidity. Glycosuria and lipuria are occasionally present, although sugar does not appear early enough to have any diagnostic value, and, apparently, but very slight traces of the fat which accumulates in the body because of disordered pancreatic action are voided in the urine. The more natural channel for this unassimilable fat is the bowel, and clay-colored stools are far more significant of pan-

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creatic than of choledochic involvement. The so-called "fat necrosis," a very general fatty change of macroscopic character which often invades organs as far distant from the pancreas as the heart and which was formerly considered pathognomonic of pancreatitis, has been shown to occur frequently, and to the same degree, in other diseases.

But if still in the dark so far as the clinical signs go, it seems very probable that ere long the results of pathological chemical study will afford means of an early and certain diagnosis of pancreatitis. When the urine of these cases is treated with phenyl-hydrazin, apparently so far without exception an abundance of singularly grouped rosetted yellow crystals is obtained. Mr. Mayo-Robson does not yet know their composition but he has found their presence of great value in establishing a differential diagnosis between simple catarrhal jaundice and icteroid pancreatitis.

Whatever may be the status of our ignorance in diagnosing pancreatitis, there is now no longer any question as to the treatment. It is both medical and surgical. Contrary to the too usual state of affairs, we know what to give, how much to give and why to give, calcium chloride. The degenerating fat in the body splits into glycerine and fatty acids—these acids unite with the calcium of the blood, which destroys, or limits, its power of coagulating. Hence calcium chloride in heroic doses is indicated especially in the hemorrhagic form. This term Mr. Mayo-Robson feels has been used too promiscuously. Inflammatory conditions of the pancreas are to be classified like those of any other organ, into chronic, sub-acute and acute. The hemorrhagic form is now to be considered a variety of the acute. The surgical treatment is immediate operation with the establishment of drainage. The position and direction of this varies with the chronicity or activity of the case. If it is of long standing, it is best accomplished indirectly by way of the marsupialized gall bladder; if acute it is through a retro-abdominal incision leading to the fat of the left perinephric region.

THE SUPPORT OF HOSPITALS.

THE problem of how to pay the running expenses of a hospital confronts even the wealthiest institutions in the city. Legacies, gifts and endowments are pouring in, but only the interest goes to current expenses, and as the scale in which these expenses increase is simply enormous, in spite of careful management, in spite of balls, concerts, fairs, bequests and annual dues of members a deficit of from $10,000 to $70,000 may reasonably be looked for each year in the treasurer's report.

Inquiry at the offices of four of the largest hospitals in New York the other day, namely St. Luke's, Presbyterian, the German and the Roosevelt Hospital brings out the fact that the deficit in the Presbyterian was $77,364.32, St. Luke's $62,043, while the German and Roosevelt each were about $11,000 behind. Certainly the private patients pay well for their care, and it is not to be expected that the poor can give more for their nursing than they do, and yet it looks as though every patient were practically the recipient of the charity of the trustees who annually put their hands in their pockets and make up the deficit.

Viewed from the standpoint of strict economy, there is no valid excuse for marble halls, swarms of servants, silver service and the luxury of perfected details. But viewed from the standpoint of science, the hospitals that are training the best physicians and nurses that the city can supply, are doing something more than caring for the individual sick man. They are combatting the disease of a nation; and the few thousands given as charity are the best investment for the city's present and future health that can be made. In these days of luxuriously appointed steam yachts, enormous country houses, and elaborate entertainments it would be niggardly to deny to science and philanthropy any detail of perfection in the matter of plumbing, lighting, heating, apparatus, service and food, that the wealthy insist on having for their own comfort.

ECHOES AND NEWS.

NEW YORK.

New Building for the L. I. College Hospital.—A new building to replace the main structure of the Long Island College Hospital in Brooklyn, which was put up fifty years ago, is soon to be erected at a cost of over $175,000, of which about $120,000 has already been contributed. Henry W. Maxwell, it is said, subscribed $50,000. George Foster Peabody and Edward M. Shepard are also large contributors to the building fund.

Gifts of New York Hospital.—All the anatomical and pathological collections of the New York Hospital Museum have been given by the Governors of the hospital to the medical colleges of this city, the Post-Graduate Med-

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ical College, the New York and Bellevue Hospital Medical College, the Cornell University Medical College, and the College of Physicians and Surgeons. These institutions arranged among themselves for the division of the collections donated. It was thought that as no lectures were given at the New York Hospital, and the museum was maintained only for exhibition to visiting doctors and others interested, the specimens could be used to better advantage in connection with the work of educational institutions.

Orthopedic Hospital Opens.—The New York State Hospital for the Care of Crippled and Deformed Children, which is situated in a remodeled house on a large tract of land on Paulding avenue near Tarrytown, on the Hudson River, was formally opened May 17th. The exercises consisted of addresses by Bishop Potter, who is President of the Board of Managers; Dr. Robert F. Weir of Columbia University, Prof. A. Alexander Smith of New York University, Prof. William M. Polk of Cornell University and William Rhinelander Stewart, President of the State Board of Charities. Bishop Potter in his opening address paid a high compliment to the work of Dr. Newton M. Shaffer, who was instrumental in getting the hospital ready to hand over unencumbered to the State. Dr. Weir said that this was the second hospital of its kind in the country. The first country to establish such a hospital at its expense, he said, was Russia. Dr. Weir explained that it was necessary to have such institutions in rural districts where the tendency to tuberculosis could be checked. The hospital has at present room for only about twenty-five or thirty patients, and eighteen are already there. Only children between four and sixteen years old who show some signs of being capable of improvement or ultimate recovery will be admitted. The Board of Managers consists of Bishop Potter, J. Hampden Robb, J. Adriance Bush, George Blagden, Jr., and Dr. Newton M. Shaffer. Dr. Shaffer will have the actual management. The consulting medical staff is composed of the professors of medicine and surgery of Cornell, the College of Physicians and Surgeons, the University-Bellevue Medical College, the medical department of the University of Buffalo, the Albany Medical College and the Long Island Medical College.

New Yorkers at the A. M. A. Meeting.—It is expected that Greater New York will be represented by more than two hundred physicians, at the annual meeting of the American Medical Association, to be held in St. Paul, Minn., June 4th to 7th. About half of these will take the special train which the New York State Medical Association has secured for the trip. This train will leave New York at 8.45 P.M., Saturday, June 1st, and stopping at various points along the line of the West Shore Railroad to pick up other members of the State Association, will reach St. Paul at 6.15 P.M. Monday. For those who will not go by this train, the New York Central offers an especially attractive table of fast through trains, and an excursion rate of one fare going and one-third fare returning, with stop-over privileges. From Chicago, the Northwestern road will run a special train of Pullman sleeping and buffet cars. This will leave Chicago at 7.30 P.M., arriving in St. Paul early Tuesday morning. The fare will be $13.50 for the round trip. This road also runs through expresses leaving Chicago at 9 A.M., 6.30, 10.00 and 10.15 P.M., on which reduced fare will be allowed. A considerable number of eastern physicians will leave to-day or early next week for the West, in order to attend meetings that precede that of the American Medical Association. New York members of the American Gynecological Society, which meets in Chicago May 28th to 30th, will go out on a special car, and will go to St. Paul next week to attend in that city the meetings of the American Association of Military Surgeons, May 29th to 31st, and of the American Academy of Medicine, June 1st and 3d. Nearly all of the New York and New England physicians, and many from other parts of the country, plan to make a brief sojourn at the Pan-American Exhibition at Buffalo a feature of the return trip.

PHILADELPHIA.

Jefferson Alumni.—The annual meeting and banquet of Jefferson Medical College Alumni Association was held May 14th at the Hotel Walton. The following officers were elected: President, Dr. W. W. Hartzell, Allentown; Corresponding Secretary, Dr. Henry Tucker, Philadelphia; Recording Secretary, Dr. Frank C. Hammond, Philadelphia; Treasurer, Dr. William Sweet, Philadelphia.

Diphtheria Not Quarantinable. — The steamer "Rhynland," which arrived at this port May 12th with three cases of diphtheria on board, was passed by both Federal and State quarantines. A list of the passengers who were to stop in Philadelphia, was furnished the Board of Health and the three persons afflicted were removed to the municipal hospital.

New Laboratories of the University.—The new medical laboratories of the University of Pennsylvania are to be unexcelled in arrangement and equipment. The building will be two stories in height above a high basement, and 200 by 340 feet in size. The first floor is to contain laboratories devoted to physiology and pharmacodynamics. The second floor will be devoted exclusively to pathology, including among others, laboratories for instruction in comparative, neurological, and surgical pathology. This building is but one of the group contemplated by the trustees, others being a new medical hall and an anatomical building.

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Hatfield Prize Awarded.—The Nathan Lewis Hatfield prize of $500 has been awarded to Dr. H. F. Harris of Atlanta, Ga. The prize is awarded by the College of Physicians for a paper embodying the results of original research in medicine. The report of Dr. Harris was upon "A Study of the Alterations Produced in the Large Intestine of Dogs by the Amœba Coli, by Heat, and by Various Chemical Substances, with Notes on the Anatomy and Histology of the Viscus."

Hydrotherapeutic Institute.—At the discussion of Dr. Baruch's paper on Hydrotherapy at the last meeting of the County Medical Society, Dr. S. Solis-Cohen stated that every medical center, if not every city, should have an institute for the application of remedial agents other than drugs. These would include water, air, electricity, massage, etc. As a result it is said that a movement is under way to establish such an institute in this city.

Should Hospital Internes Give Anesthetics?—A discussion on this topic took place at a recent meeting of the Section on Gynecology of the College of Physicians, when Dr. C. H. Judd reported his conclusions and results in 850 cases of etherization. Dr. J. M. Baldy said that every institution should have a paid etherizer, the internes not being allowed to give anesthetics. He believes that the etherizer requires skill and training as well as the operator. New etherizers can be trained to replace retired ones by observing and helping the paid etherizer. A few minutes longer under ether because of an inexperienced etherizer may mean the death of a patient. The majority of cases of pneumonia following operation are due to faulty etherization. When the history is traced it will be found that the most of these patients have been black in the face or giving trouble at some time during the anesthetizing. The etherizer should never put his finger in the eye of a patient to test the reflexes. The supposed necessity of grasping the tongue by forceps is in nearly every instance due to faulty etherization. Dr. John C. Da Costa said that it was desirable to have a regular etherizer but he had seen some unfortunate results in the hands of so-called experts. His experience is that generally better results are obtained by trained hospital residents.

Dr. Thomas S. Kirkbride.—The exercises in commemoration of the one hundred and fiftieth anniversary of the Pennsylvania Hospital ended May 18th with an inspection of the insane department of the hospital. This brought to mind the splendid record of Dr. Thomas S. Kirkbride, the first superintendent, and from whom the institution took its still familiar term of "Kirkbride's Asylum." In his commemorative address Mr. Garrett paid a high tribute to the memory of Dr. Kirkbride. He was but twenty-two years of age when called to the superintendency of the new institution. To him more than to any other man of his time in this city was due the credit for the amelioration of the treatment of the insane. When the Pennsylvania Hospital was first opened it had two patients, and one of them was a lunatic. Large numbers followed and were restrained by harsh means according to the custom at that time. Dr. Kirkbride declared that corporal coercion and mechanical confinement should be done away with, and that life should be made attractive by amusements or cheerful tasks. He had a peculiar control over insane people, quieting otherwise uncontrollable maniacs. During the forty-two years of Dr. Kirkbride's service as head of the hospital it was the institution especially studied by foreign as well as American alienists.

Philadelphia and Appendicitis.—Dr. Oliver Wendell Holmes uttered his witticism about the novelist never hitting below the belt before the days of appendicitis. This malady has become a distinctly gentlemanly disease proper to discuss in polite society and we are not at all sure but New York will feel a little aggrieved at not being mentioned in the following excerpt from the New York *Sun* "Philadelphia has a new distinction, which will make her haughtier than ever. That city is the center and capital of appendicitis. According to Dr. Joseph Price, who read a paper on the subject to the County Medical Society last week, 'Philadelphia apparently lies in the center of a belt wherein appendicitis has been more common than in any other particular neighborhood in the United States.' The appendicitis belt takes in not only Philadelphia but the suburban towns near it, where most of the rich Philadelphians live. 'In this zone the number of cases of appendicitis is twice as large each year as that of any other locality of like character fortunately the rate of mortality is low. The rich Philadelphians can afford to have appendicitis and they do have it. But they seldom commit the indiscretion of dying of it. They take their pains as they take their pleasures, moderately and mildly. Physical geography accounts in part for the appendicitis belt. Much of the land is wet or very low, a country of miasma and malaria, of hay fever and grip; of grip, which is acknowledged to be an advance agent of appendicitis. Dr. Price says that a few years ago appendicitis was comparatively uncommon among women. The ratio was sixteen cases to three among women. Now women are about as liable to have the disease as men are. This increased susceptibility is attributed to the growth of outdoor physical exercise for women. Golf, cricket, bicycling, all forms of outdoor sport that are practised for long hours and in bad weather are resented by the appendix. O, well, if this be true, the appendix is even more of an ass than has been believed. People are not going to give up athletic exercise for the sake of

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conciliating a notoriously useless and troublesome organ. A little appendicitis is not too high a price to pay for a good deal of sport. Besides, appendicitis in the appendicitis belt is gentle; and who can better bear the excision of the appendix than the strong and hearty folks who live out of doors?"

CHICAGO.

Chicago Sanitarium.—It is said that this city is to have a large private hotel and sanitarium where the wealthy patients of four of the leading physicians and surgeons can be treated and accommodated. The site has been secured, plans have been drawn, and a building permit will be asked for within a short time. The Chicago practitioners who form the sanitarium interest are said to be Drs. Frank Billings, Nicholas Senn, John B. Murphy, and Franklin H. Martin. The site secured is at the northwest corner of Eldridge Court and Michigan Avenue. The building will cost $400,000. It is to be eight stories high, stone front, and is to be equipped with the most modern conveniences.

Visiting Nurse Association.—This Association during April cared for 828 patients, and 3,573 visits were made by the fifteen staff members, according to a report issued a day or two ago.

Alexian Brothers' Hospital.—A testimonial concert was given for the benefit of this institution May 15th. This was the first of a series of annual entertainments which will be given for this purpose. The grounds and buildings for the new hospital cost $500,000, of which $400,000 has been paid, leaving an existing debt of $100,000. The proceeds of this concert amounted to $6,000.

Operation for Uterine Prolapse.—At a recent meeting of the Chicago Medical Society, Dr. J. Clarence Webster presented cases of post-menopausal complete prolapse of the uterus in which the prolapsed portion formed a swelling as large as two fists, hanging outside the vulva. In one case there was a papilloma about the size of a large walnut growing from the posterior lip of the cervix. He showed a photograph of one of the cases. It turned out fortunately that the papilloma was of a simple nature, therefore it did not come under consideration in these cases because the operative procedure carried out in each instance had reference to the prolapse, not to the tumor. In considering such a condition as post-menopausal prolapse of this grade, he dismissed from consideration all the simpler measures. Total extirpation of the uterus has been done by a number of operators, but has not been very favorably commented on for complete prolapse in old women. There have been failures after that operation. In these cases he adopted a special procedure which he thinks will be successful. In the first place, he performed extirpation of the uterus, which was considerably hypertrophied, for the purpose of drawing down the broad ligaments as far as possible and fastening them into the fornix of the vagina after the organ has been removed, in order that he might get upward traction of the broad ligaments at the end of the operative procedure. Extirpation is quite simple in such a case, and it is easy to draw down the broad ligaments and fasten them into the fornix of the vagina in the manner represented in a cast which was shown. That being done, he carried out extensive repair work, doing an anterior colporrhaphy, an oval flap being removed from the anterior wall. Again, in the same case an extensive colpo-perineorrhaphy was carried out posteriorly to diminish the vagina as much as possible in its diameter, and to build up a new sacral segment of the pelvic floor by a procedure which is slightly different from any method in use at the present time. The suture material used in every instance of this kind was formalin catgut buried, and superficial chromic catgut in the vaginal surfaces. The results have been very satisfactory in these patients, and they are nearly ready to leave the hospital.

GENERAL.

Harvard Medical College.—Plans for the new Medical School buildings have been completed, and a site has been chosen in the lot of twenty-six acres in Brookline which was purchased for the university last summer. According to these proposals, the school will be made up of three buildings facing an oblong court. Each of the buildings along the sides will be a series of wings connected by corridors, and each wing will be devoted to some special department. On the southeastern side the four wings are devoted respectively to anatomy, histology and embryology, hygiene, and pharmacology. The wings on the northwestern side are devoted to physiology, physiological chemistry, surgery, and bacteriology and pathology. The building on the side between these two sides will be given up to the administrative department of the Medical School. It is thought that these plans will require the expenditure of $2,000,000. Part of this sum can be realized by the sale of the present site, but as yet no other funds are forthcoming, and the beginning of the work will necessarily be delayed. The removal of the medical schools to the new site will probably not be completed for several years yet.

Obituary.—Dr. John A. Wells of Englewood, N. J., died on Monday, May 20th. He was about forty-five years of age and a leading physician in his locality.

Dr. William D. Thomas of the Chair of Psychology of Richmond (Va.) College died in Baltimore yesterday from a stroke of apoplexy. He went there a month ago to undergo

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a surgical operation, which, apparently, was successful. Dr. Thomas had long been identified with the advanced education of the South.

Medical Society of City Hospital Alumni.—At the last meeting of the Medical Society of the (St. Louis) City Hospital Alumni held Thursday, May 16th, the following papers were read. Dr. A. H. Meisenbach—Surgical Operations on the Aged, with Report of Illustrative Cases; Dr. F. L. Reder—Vesico-vaginal Fistula—Operation according to Technic of Freund—Report of a Case; Dr. R. B. H. Gradwohl—The Use of the Double-knife in Histo-Pathology, with Demonstration.

Gastro-Enterological Association.—The following officers were elected at the annual meeting held in Washington, D. C., May 1st, 1901: President, John C. Hemmeter, M.D., Baltimore; 1st Vice-President, W. D. Booker, M.D., Baltimore; 2nd Vice-president, S. J. Meltzer, M.D., New York; Secretary and Treasurer, Charles D. Aaron, M.D., Detroit; Council, Max Einhorn, M.D., New York; D. D. Stewart, M.D., Philadelphia; A. L. Benedict, M.D., Buffalo. The next annual meeting of the "American Gastro-Enterological Association" will be held in Washington, D. C., May 2, 1902.

CORRESPONDENCE.

OUR LONDON LETTER.

[From Our Special Correspondent.]

LONDON, May 11, 1901.

THE ROYAL SOCIETY—ELECTION OF MAJOR RONALD ROSS—MALARIA RESEARCHES AND RESEARCHERS—PATRICK MANSON AND HIS WORK—THE LONDON AND THE LIVERPOOL SCHOOLS OF TROPICAL MEDICINE—A "GIGANTIC" EXPERIMENT ON THE PREVENTION OF MALARIA—A KNIGHTHOOD FOR FREDERICK TREVES—MEDICAL APPOINTMENTS AT COURT—THE KING AND THE BRITISH MEDICAL ASSOCIATION.

The Royal Society is a very high and mighty body and admission to its Fellowship is looked upon by us as a sort of scientific canonization The mystic letters "F. R. S." after a man's name corresponds to the halo around the head which is the symbol of sanctity in sacred art. The election takes place once a year and as many are called and few are chosen many worthy persons suffer bitter disappointment and give way to the wrath which burns even in heavenly souls. And it is likely enough that some of the scientific Peris, who are doomed to stand disconsolate at heaven's gate without being allowed to enter, do well to be angry. For the chosen few are the nominees of a small clique, and in the domain of the medical sciences it is understood that the selection has for years been virtually in the hands of one man, to wit, Sir Michael Foster, M.P., who is the Secretary of the Society. The distinguished Professor of Physiology in the University of Cambridge is, it is true, above all suspicion of unworthy motives; yet he is in a measure human and it is whispered that he has a more sympathetic appreciation of the merits of Cambridge workers than of those who have not had the privilege of sitting at his feet in that ancient seat of learning. Among the fifteen candidates who have found favor in the eyes of the Council of the Royal Society this year there are but two members of the medical profession. These are Dr. C. J. Martin, Professor of Physiology in the University of Melbourne, whose name is known to the scientific world by his researches on snake venoms and toxins and antitoxins; and the redoubtable Major Ronald Ross, who, like Lord Byron, "woke one morning and found himself famous" by his proof of the mosquito theory of the origin of malaria. The epithet "redoubtable" here applied to him must not be taken as meaning that the Major is more ferocious than the average scientific discoverer; but his military title, to which he still clings though he has for some time ceased to be an officer in the Indian Medical Service, by the association of ideas suggests the idea of an even more famous Major, that renowned *soldado,* Dugald Dalgetty. The medical Major has as aggressive a sense of what is due to him as the legendary one; and like that hero he does not allow false modesty to stand in the way of his claiming what he conceives to be his due. It must be admitted, however, that he has been treated by certain rival investigators in a manner sufficient to rouse a meeker spirit than his. An Italian worker whose name is much in the mouths of men in connection with recent researches on malaria is accused of having simply "conveyed" (as the wise call it) Ross's ideas and published them as his own. Then the great Koch has given to the world a number of reports on malaria in New Guinea and elsewhere, in which no mention is made of Ross. In this case however Ross has no more reason to complain than any of the other investigators, Italian, French, American and British, who have been working at this problem in recent years. Molière, it is known, made no scruple of appropriating whatever in the works of his predecessors appeared likely to suit his purpose; and he justified the procedure by the explanation *Je prends mon bien où je le trouve.* The celebrated German researcher seems to act on the same principle. Like a Cæsar of science

> "He doth bestride the narrow world
> Like a Colossus; and we petty men
> Walk under his huge legs and peep about
> To find ourselves dishonourable graves."

For "petty" scientific investigators the "dishonorable graves" aforesaid are found in the transactions of medical societies where the fruits of so much labor lie buried in oblivion.

Ross is a good fellow and a conscientious laborer in the vineyard of research. But his work,

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valuable as it is, has been done under the inspiration of Patrick Manson who is a man of a much higher order of mind, and is indeed, in his own sphere, a genius. He has the creative imagination which not only forms pregnant theories, but by intuition penetrates to the heart of mysteries that have puzzled mankind for ages. By the guesses at truth which he has thrown out he has already sown seed in various soils that will some day grow and ripen to golden harvests. Readers doubtless remember what General Paoli (as recorded in Boswell's "Johnson") said of Goldsmith: *Il est comme la mer; il jette des perles sans s'en apercevoir.* This happy phrase might be applied to Manson. He scatters his ideas about without reserve and rejoices to see them grow to the enrichment of other men's fields. The other day at a meeting of our principal society, the Royal Medical and Chirurgical, he with characteristic modesty described his own share in the business by saying that he had not discovered the cause of malaria but he had discovered Ross. Manson was elected into the Royal Society a year ago, and now the admission of Ross to that august body may be taken as having set the seal of official consecration on the malaria discoveries.

But it is right to recall in this hour of triumph of the mosquito theory that for years Manson was ridiculed as a mere dreamer and a weaver of brain cobwebs. The "superior person" sniffed at him; the laboratory pedant shrugged his shoulders half in pity and wholly in contempt at the mention of his name, and the martinets of professional discipline shook their heads about him. Yet undiscouraged by the disapproval, open or veiled, of the "leaders of the profession" and indeed to a large extent unconscious of it, Manson held stoutly on his way. In season and out of season he preached his gospel, urging that the study of tropical diseases was a matter of vital importance in relation to the expansion of the British Empire; that men who go out to the Colonies to do battle with strange forms of disease should be trained beforehand for the task instead of having to learn their business by experience reinforced by human sacrifices. For a long time his preaching had no appreciable effect. But when the whirligig of politics brought Mr. Chamberlain to the Colonial Office, Manson found a disciple who saw the direct bearing which his teaching had on successful colonization, and the power of spreading the new gospel by the administrative pen—and perhaps uncharitable persons might say, by the sword. Manson was appointed Medical Adviser to the Colonial Office, and soon he became transfigured in profession opinion from a voice crying in the wilderness to a leader in Israel. By his influence the London School of Tropical Medicine was founded. Though very inconveniently situated, far away in the wilds of dock-land, and though cramped for space and crippled by insufficiency of funds, the School has from the beginning made steady progress. The May session commenced with twenty-two students, several of whom belong to the Colonial Medical Service, while a fair sprinkling come from Switzerland, Norway and the United States.

There is another school of tropical diseases in Liverpool of which Major Ronald Ross is the presiding genius. It has the advantage of organic connection with a school of general medicine, and of a convenient situation in a great seaport where ships bring merchandise, and with it consignments of exotic disease, from all parts of the world. It has further the immense advantage of a tutelary millionaire who not only lavishes money on the school, but organizes scientific expeditions to the most distant parts—all to the greater glory of the school and indirectly of those who work the machinery.

The rivalry between the London and Liverpool schools which at first was hidden in the decent obscurity of polite formulæ has now become open and acute. Last summer, as you know, the London School sent two men to live through the malaria season in the Roman Campagna, and protected by an armor of wire-netting to defy the deadly *Anopheles.* Now Liverpool is about to go one better, and an experiment is to be made on a "gigantic" scale to show that a large town can be swept clear of mosquitoes, and consequently of malaria, and kept so. Major Ross some time ago delivered an address in which he spoke as if he could deal with malaria as Defoe, in his *Short Way with Dissenters,* proposed to do with religious non-conformity. All that need be done was to destroy the mosquitoes by poisoning the puddles in which they breed. The method was so simple that it reminded one of the instructions given in the *Georgics* how to suppress a battle among bees, *pulveris exigui jactu.* The idea is not original for the method has been tried at Sassari and one or two other places in Italy with encouraging success; but it has not yet been put to the proof on a large scale. The result of Ross's experiment will therefore be awaited with great interest. In carrying on his campaign against gnats he will not be hampered by want of the sinews of war. It is announced that a large sum sufficient to pay the expenses of one year's trial of preventive measures in some large malaria-haunted city has been placed at his disposal. This will make it possible to maintain a staff of workers with all necessary appliances for that period. They will attack all kinds of mosquitoes to be found within the area of the city and some distance beyond it. They will destroy the adult insects found in the houses and the larvæ found in puddles or vessels of water outside. It is hoped that well-sustained efforts of this kind will reduce the whole number of mosquitoes in the selected town sufficiently to induce local Governments to adopt similar measures in other malarious towns in British possessions. The experiment will be commenced almost immediately. The selection of the town will depend largely upon the degree of assistance promised by the local authorities.

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It was hinted in a previous letter that certain of those whom the king had delighted to honor for their services in South Africa were disposed to think His Majesty had scarcely honored them enough. This grave failure of royal recognition has now been rectified in the case of one of the aggrieved ones. Mr. Frederick Treves was a few days ago made by the King a Knight of the Royal Victorian Order, and he is henceforth entitled to all the privileges of the exalted rank to which he has been raised. Mr. Justice Shallow was, as he tells us, "a gentleman born . . . who writes himself *armigero;* in any bill, warrant, quittance or obligation, *armigero.*" Sir Frederick can do more: he can, if he will, write himself *eques auratus;* and the adjective would have a special significance as applied to the new medical knight for no members of his profession has won more golden opinions from his brethren, or more samples of the gold currency of this realm from the British public.

It may be added that Treves was Surgeon to the King when Prince of Wales and not long ago he was gazetted one of His Majesty's Honorary Serjeant Surgeons. This office or rather title was, I believe, especially created for MacCormac and him. Lord Lister holds the ancient office of Serjeant Surgeon, the incumbent of which in old days was expected to accompany his sovereign into battle. Among other novel features in the list of Court Appointments it may be pointed out that the name of Sir Felix Semon, the Laryngologist, figures in the list of Physicians Extraordinary; and there is a special office of Honorary Anesthetist to His Majesty which is filled by Dr. F. W. Hewitt. Whether any special significance is to be attached to the creation of such an office, I cannot say. It is probably merely ornamental, and given as a reward for special service like the title "Physician Accoucheur to the Queen," which used to be given to distinguished obstetricians long after Her late Majesty could have had occasion for their professional services. The inclusion of a specialist among the physicians, however, has caused a good deal of what Macbeth calls "curses not loud but deep" among the bigwigs of the College of Physicians who do not like this official recognition of what they regard as a lower grade of practice.

Among the public Semon's appointment seems to have given rise to an absurd rumor that the King is suffering from cancer of the throat. One hears this everywhere—from members of Parliament, from Editors of leading papers, from quidnuncs at Clubs, from gossips of all sorts and conditions, both within and without the sacrosanct pale of "society." There does not appear however to be a shadow of foundation for the report, and Sir Felix Semon's attendance on the King has, it may be surmised, much more to do with cards than with cancer.

In connection with the King it may be mentioned that His Majesty has just consented to become Patron of the British Medical Association. At the last annual meeting of that body held at Ipswich the Prince of Wales, as he then was, was elected an honorary member. As the official wheels of the Association grind very, very slowly the diploma of Membership was never delivered to him, and when he came to the throne he sent a curt intimation that he could not retain the honorary Membership which had been thrust upon him when he was still, in a legal sense, an ordinary mortal. The fact that he has graciously consented to extend his royal patronage to the Association will be highly gratifying to its Members, for in this country a divinity doth still hedge a throne, and the patronage of royalty is considered a most valuable asset by all public bodies and institutions.

TRANSACTIONS OF FOREIGN SOCIETIES.

French.

PUBLIC LAUNDRIES—MOSQUITOES IN PARK FOUNTAINS — KERATOMYCOSIS — OXYURIS VERMICULARIS AND APPENDICITIS—FOREIGN BODY IN THE BRONCHI—FRACTURE AND MASSAGE—ANTERIOR MEDIASTINOTOMY—PUERPERAL SEPTICEMIA—EPIDEMIC CEREBROSPINAL MENINGITIS —VARIOLA IN THE NEW BORN—SCIATICA AND COCAINE.

DELORME, at the Académie de Médicine, April 9, 1901, read a paper on the economic and hygienic relations between public laundries and public health, endeavoring to show that henceforth one may safely put the linen of those suffering from contagious disease among that of healthy people, provided it undergoes the bleaching processes usually followed in these places. Careful examination of the water used in bleaching linen even if infected with various toxic germs, like the streptococcus, staphylococcus, etc., with repeated cultures from them showed that the germs were killed in the process.

DEBOVE, at the session of April 16th, discussed the presence of the mosquito larvæ in the water of park pools and fountains. The prevention of this lies in maintaining a rapid evacuation of the water, never letting it stagnate or in covering its surface with a layer of petroleum oil which will kill the larvæ.

PANAS, at the session of April 2d, presented an article in behalf of Collomb (Geneva) on a case of corneal infection by the *aspergillus fumigatus.* Such corneal disease is very rare, since only eight cases are on record, which includes that of Collomb. In almost all, the patients were young laborers who became infected by the pene-

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tration into their eyes of dust from the ground or from the husks of cocoa. The corneal ulcer with a typical hypopyon, which might be confused with this condition alone, appears to afflict the older patients, especially if the conjunctiva and lachrymal passages are the seats of a chronic inflammation. In keratomycosis the ulcer usually occupies the center of the cornea and at its own middle presents a greyish-yellow core which is adherent and very hard to detach. Its elimination is slow and one observes about the line of separation no fistulous tract so common in the serpigenous ulcer. Although the pain of this affection is very considerable, its prognosis is very much better than is that of *ulcus serpens,* because it is never accompanied by a purulent degeneration or a general destruction of the eyeball. The one permanent damage to the eye following this disease is a corneal scar of greater or less depth and extent.

MOTY (military surgeon) noted the relation between appendicitis of an obscure origin and the *oxyuris vermicularis,* with the conclusion that they are quite frequently found in the organ. In order to detect their presence the appendix should not be washed, but should be immediately opened and carefully inspected, when the nematode will easily be found. Cold water will kill and deform them. In three out of five cases of appendicitis of unexplained origin recently operated on by him he had not the slightest difficulty in demonstrating the worm in the cavity of the viscus. The lesson taught he thinks is that vermicide catharsis would be a valuable treatment in the early medicinal management of appendicitis of unknown cause, and always when worms are suspected anywhere in the intestinal tract.

PIÉCHAND (Bordeaux) communicated an observation of an child three and a half years old who had swallowed a steel nail two and a half centimeters long. Radiography showed the nail lodged in one of the bronchi. The trachea was opened and a steel sound very cautiously passed down to the neighborhood of the foreign body and then a strong electro-magnet was attached to the sound. In a moment the sound was withdrawn and the nail was found attached to its extremity. The little child is to-day perfectly healthy and happy, without any sequelæ of its accident.

LUCAS-CHAMPIONNIERE presented a thirty-eight year old woman who had received a complete fracture of the left humerus and was successfully cured by mobilization without apparatus. Under massage the pain which had been very active, decreased, the muscular spasm vanished, and the overriding of the bones was greatly corrected, so that to-day her arm is not deformed and is a thoroughly strong and useful member although only thirty-eight days after the injury.

QUÉNU, at the Société de Chirurgie, March 27, 1901, in discussing the paper of Ricard at the former meeting on the subject of anterior mediastinotomy, said that he would endorse such operative interference by this unusual and highly dangenerous route of approach for the removal of a foreign body lodged in the trachea or bronchi provided it was not accessible by any other route especially the natural. But as to the precise technic to be followed, he could not quite agree with the steps detailed by Ricard in his extraction of a tube lodged at the bifurcation of the trachea and in the mouth of the right bronchus as described at the last sitting. After numerous experiments on the cadaver he has concluded that a posterior mediastinotomy will be far preferable to that of Ricard, the anterior, and for the following reasons. Aside from the intercostal vessels which are negliable there are no large blood vessels encountered except the azygos veins and their confluence. This is significant when compared with the many large trunks in and around the anterior approach. Considerable space can be gained by liberal resection of the ribs and the deep field although far removed from the surface finally exposes the soft median posterior area along the trachea through which the foreign body can almost always be felt and directly exposed and removed. In his attempt to do this Ricard in the anterior field utterly failed.

TUFFIER gave as his opinion the wisdom of always using a guide in any mediastinotomy a large radioscopic projection of the patient's mediastinum and the situation of the foreign body.

KOCHARD reported for Faure, seven cases of puerperal septicemia operated on by hysterectomy, of which he is a firm partizan especially by the vaginal route. In order to obviate the friability of the septic uterus he employs cyst-forceps instead of the ordinary type and finds that they are a means of saving time. He has been able to remove the uterus thus in from four to fifteen minutes. Of these seven, six patients died, as they were operated on too late but the last fully recovered, because she was brought to him much earlier in the disease.

NETTER, at the Société Médicale des Hopitaux, March 29, 1901, spoke of the remote and immediate results of epidemic cerebrospinal meningitis and raised the point whether or not any of the destructive nerve lesions seen after it may arise after convalescence has been apparently complete. This important question can be answered by a careful comparison of the various epidemics of this disease of the past, wherein may be found many examples of absolute and complete recovery and many of damaged sight, hearing and muscular power, shown in paralysis, atrophy and contractures and lastly of impaired intelligence. But a more satisfactory answer of the problem will be a reference to the cases of the present time in which an actual purulent exudate upon the surface of the brain and spinal cord, can be established by lumbar puncture, especially when often repeated. In May, 1900, he observed seven cases of the disease, among which three were followed by loss of vision and four recently seen again were completely cured. During the fol-

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lowing three months, June, July and August, 1900, he again saw three cases whose disease went on to complete recovery. Here then are seven cases whose cure has remained absolute for a period of many months after the disease. This final integrity of the entire cerebrospinal apparatus has after all no remarkable features, although one has been able to prove abundant purulent exudate upon the membranes, when compared with the remarkable and final recoveries from purulent pleurisy.

ROGER stated that he had recently had occasion to observe eleven women who were pregnant and at the same time suffering from variola, but went on to full term or very nearly full term. The infants at first sight appeared normal or nearly normal, but on taking their temperature one found that they were all hypothermic. The thermometer in fact did not in any one register over 37° C. and most frequently was 36° C. In one case it was as low as 31°, 30° and even 28° C. Three of the children died respectively four, six and eleven days after birth without having shown any symptom except the low temperature and jaundice. Another child presented moreover a scarlatiniform eruption on the eve of its death. In seven of the cases the development was more frank and really went on to the true variolous eruption. This was ordinarily accompanied by a rise in temperature which went above the normal. On the following day a few discrete scattered vesicles appeared filled with a thick fluid and rapidly desiccating. Death ensued three or four days later with very low temperatures. In one child the temperature fell to 27° C. about two hours before death. The real evolution of the eruption was occasionally like that in the adult. The papules went on to true pustulation. In spite of its gravity the disease was not always mortal because one child recovered although its temperature reached 35° C.

MARIE communicated in the name of GUILLAIN and himself an observation of a patient of thirty-five years afflicted with a moderate sciatica with a well-marked sign of Lasègue. March 26 a small dose of cocaine was injected into his spinal canal resulting in the disappearance within six minutes of the pain. The next day it returned but with much less intensity and then that night disappeared altogether and has since then not reappeared.

SOCIETY PROCEEDINGS.

AMERICAN THERAPEUTIC SOCIETY.

Second Annual Meeting, Held in Washington, D. C., May 7, 8, and 9, 1901.

FIRST DAY—MAY 7TH.

Presidential Address.—This was delivered by Dr. Reynold W. Wilcox, Dr. H. C. Wood being too ill to attend, and consisted of a review of the progress of therapeutics during the last twelve months. This period, he said, had witnessed but few startling achievements in the treatment of suffering humanity, yet a careful review of the vast therapeutic literature gave much satisfaction in that the progress had been of a kind that was likely to be permanent. He referred to the careful study of older remedies and methods, the re-investigation of theories and practices based upon them and the readjustment of their conclusions in the light of these researches. So of the newer additions to their resources, it might be said that to their study was devoted intelligent discrimination, and conservative opinions had been reached as to their value and importance.

For rapid advancement in knowledge and substantial increase in their materials and methods, they were living in an auspicious decade. The therapeutic nihilism resulting from the despair of the dead-house had largely passed away. According to the Teutonic idea, the completeness and conclusiveness of the patient's history was marred by the remoteness of the necropsy report or its absence altogether. While to-day the professed therapeutic nihilist was looked upon as a therapeutic ignoramus they were all somewhat in danger of stepping over the lines of a healthy optimism into the obscurity of an insistent credulity. The society had very properly placed a barrier against the presentation of "secret," patented or copyrighted remedy, remedies, or methods of treatment," by forbidding "paper, report, abstract or other communication, either written or verbal, which directly or indirectly commends or advertises them," and prohibiting discussion upon them, although it permitted adverse action upon these subjects. Thus it was that those substances and methods whose extravagant claims were in inverse ratio to their merits, might meet with their just deserts; others were to be considered *sub judice* until freed from unprofessional restrictions. This stipulation, then, while limiting but slightly the therapeutic resources of real worth, markedly lessened the amount of alleged therapeutic literature which required to be consulted.

Dr. Wilcox then proceeded to refer to the attention which had been devoted recently to internal antisepsis, speaking more or less favorably of the use of chlorine in enteric fever, guaiacol or creosote (particularly as organic salts) in pulmonary tuberculosis, naphtol in various conditions found in the alimentary canal, and various organic bismuth salts in the treatment of the same conditions. As samples of general internal antiseptics he mentioned chlorine, soluble silver, the salicylates and quinine. The conclusion at which he arrived was that, as a result of the labors of Lister and countless followers, the ideal in regard to internal antisepsis had been nearly attained. Internal antisepsis now rested on quite as secure a basis as did the surgical when the pioneers began their work, and the ensuing three decades (it was thirty years since this work was

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begun) would doubtless bring to fruition their most daring hopes. As the surgeon gave credit to Lister, so much the therapeutists acknowledge their indebtedness to Bouchard for many of their facts, trusting that others would continue the work that he so painstakingly had begun. At this time they could safely say that internal antisepsis was more than the dream of the theorist. Internal antisepsis, it was possible, might be useless or detrimental, under certain conditions, or might be absolutely contra-indicated because of the patient. How best to attain it was a question to which the answer would vary with each succeeding year as their knowledge of infectious diseases and the best way of combating them rested upon a broader and more secure foundation.

The Corning-Bier method of producing anesthesia by cocainization of the spinal cord was next discussed, the untoward symptoms that result apparently from the toxic action of the cocaine being noted. There was also the danger that the anesthesia might persist for a very long time, or on the other hand that it might be found impossible to produce sufficient anesthesia for purposes of operation, when general anesthesia would have to be resorted to. Permanent disability, so far as he could ascertain, had not been reported. The field of its employment would seem to be as a palliative measure in operable neoplasms producing excessive pain. In obstetrics its use had been successful, both in relieving pain and in not interfering with the usual course of labor and subsequent recovery. In general surgery, the question was still open for discussion, for its advantages were not demonstrably greater, nor its safety necessarily more pronounced than was general anesthesia, while the fact that the patient was conscious during the operation might be a decided objection.

Touching next upon the electric-light bath, Dr. Wilcox remarked that various observers had found it the most satisfactory and efficient of all methods of inducing perspiration, inasmuch as it was a direct stimulant to the gland. Its peculiar value was due to its efficiency as a source of radiant energy which was not communicated to the skin by convection, the skin and all living tissues being like the air in respect that they were to a large extent transparent to radiant heat. Another advantage of this bath was that it encouraged heat elimination and the excretion of effete matters, and that, the temperature of the blood being elevated, there was a quickening of all the vital processes. It was claimed that this method was particularly valuable in the treatment of cardiac disease and in diabetes, while it had also been found useful in dropsy, chronic dyspepsia, chronic malaria, syphilis, rheumatic affections, anemia, etc. A local application followed by an ice compress was almost a panacea for the pain of sciatica, and it had likewise yielded excellent results as a nerve tonic in the treatment of neurasthenia. The Finsen light and the Roentgen-ray treatments were also reviewed. The speaker, however, thought that the claims of the latter in regard to the treatment of certain forms of tuberculosis required more time for absolute demonstration.

Sodium cacodylate, Dr. Wilcox went on to say, had probably attracted more attention than any one other remedy. It could apparently be safely introduced into the body in much larger doses than its arsenic content would lead them to suppose, and could even be administered subcutaneously, althought there was considerable dispute as to the agreeableness of this method of administration. It had received favorable commendation in the treatment of tuberculosis, anemia, and other diseases and conditions. Adonidin had been favorably reported upon by one observer who said that it could be safely administered in certain circumstances when digitalis, if used at all, ought only to be used with the greatest caution.

After speaking of other remedies, Dr. Wilcox condemned the use of carbolic-acid solutions as moist dressings, and said that carbolic acid in any strength should be included in the list of those drugs which could only be procured by the prescription of a physician. When alcohol was used as an antidote to carbolic acid, it should not be forgotten that promptness of action was of the utmost importance. Since 60 grains of carbolic acid almost always proved fatal and the drug could be easily obtained, a knowledge of the antidotal power of alcohol should be disseminated as widely as possible among the people.

The serums, suprarenal extract, apomorphine, salol, and other drugs, having had their claims examined, Dr. Wilcox took up the subject of drug standardization, showing the advantages that would be derived from it. He then remarked on the fact, which he considered gratifying, that hydrotherapy was now being investigated by experienced and trustworthy observers. He also paid a brief tribute to the excellent work that was being done in the laboratories of the principal medical schools as well as in those under the control of private enterprise. Paying his compliments to the fad known as "Eddyism," he expressed his regret that it had not borne fruit either in the way of affording material for the study of the natural history of untreated disease, or of ridding them of patients they could not cure —those who had nothing the matter with them. In connection with this part of his subject he made note of the fact that when their own interests were affected the Christian Scientists acted very much like other people, instancing the recent proceedings before the New York legislature, when they resorted to the customary methods for influencing legislation, and carried them out with such prodigality that the unusually callous and corrupt legislators were astonished. Their brazen effrontery, however, he added, was likely to result in the political death of those who had participated in their bounty. He concluded by alluding to the importance of the work being carried on by the committee entrusted with the revision of the Pharmacopœia and of that in

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which the Therapeutic Society was engaged.

A business meeting of the Society was afterward held, the proceedings being conducted in private.

SECOND DAY—MAY 8TH.

The Secretary, Dr. Noble P. Barnes, read a letter from Dr. Eli H. Long of Buffalo expressing regret at his inability to be present, and suggesting that at next year's meeting there should be a symposium on therapeutic teaching.

Suggestions Concerning the Use of the Metric System in Prescription Writing.—A paper thus entitled was read by Dr. Francis P. Morgan of Washington who pointed out the ease with which the metric system could be learned by students, and also the convenience it possessed for the practitioner when once he had become familiar with it. He admitted the hopelessness of getting the approval to the proposed change of those who had been so long accustomed to another system. It was all the more important, therefore, that the advocates of the metric system should impress their views on authors and teachers, and endeavor to convince them of the advantages of the system, the chief of which were its extreme simplicity and uniformity. Some text-books had made the concession of giving doses in metric terms as well as in those of apothecaries' weights and measures, but they were given in such a complicated way as to be confusing and practically useless. This was due to the fact that the authors, being desirous of giving the doses in both systems, took those of the apothecary system and translated them literally into decimal figures, the result being a long string of figures which were of no use, and had a very puzzling effect on the student and practitioner who wished to make use of the system. All doses could be well enough expressed in one or two figures, without this apparent desire to attain accurate equivalents of apothecaries' weights and measures.

Dr. Leon L. Solomon of Louisville endorsed everything that had been said as to the advantages of the metric system, but said he thought the doctors were not so much to blame for the continuance of the present practice as was the Government, which ought to have the courage to stamp the Pharmacopœia with its approval, and insist on all medicines being weighed and measured by the same standard.

Dr. Thos. E. Satterthwaite of New York remarked that there was no doubt that the metric system was the most scientific, but there were difficulties in carrying it out, among them that of getting pharmacists to fill prescriptions in accordance with their exact terms.

Dr. Solomon said it was as easy to teach pharmacists as it was to teach doctors the metric system.

Dr. Satterthwaite explained that he did not mean to cast any reflection on the pharmacists; all he intended to say was that they were not taught the metric system.

Others who took part in the discussion were Drs. Wm. M. Sprigg and Robert Reyburn of Washington, Dr. A. C. Barnes of Philadelphia, and Dr. Stewart of New York, all the speakers expressing more or less approval of the metric system.

Revision of Pharmacopœia.—The Chairman, Dr. Wilcox, on behalf of the Pharmacopœia Committee of the Society, reported that the work of the Revision Committee was in a very satisfactory condition—that many of the matters which must of necessity be first considered, such as questions of atomic weights, temperature at which specific gravity should be determined, etc., had been practically brought to a conclusion. The substances which were to be expurgated had been carefully considered and practically a final conclusion reached regarding them. Of the large number of substances proposed for admission, a considerable number had been provisionally tested, the restrictions imposed by the convention being always borne in mind. It was of interest, in connection with the discussion just closed, to mention that the doses to be introduced for the first time in the next edition of the Pharmacopœia were to be the average adult doses expressed in the metric system, with the approximate equivalent doses expressed in the old system enclosed in brackets. The Revision Committee addressed inquiries to all the State and National medical and pharmaceutical societies, in order to ascertain what substances the physicians desired to be officially recognized and what substances were usually prescribed by physicians. The Committee had left no stone unturned to ascertain what was the general desire as to the substances that should be included in the Pharmacopœia. Any criticisms on the Committee, therefore, would seem to be based on insufficient ground, for it had offered every possible opportunity for the making of suggestions. The work was progressing favorably, and the Committee expected to present the finished work in a somewhat shorter period than was required for the last revision. He added a number of other instances that had come within his notice in regard to the metric system to show that it was gaining favor in other professions and branches of business.

The Relation of the Pharmacist to the Physician, and the Relation of Pharmacy to Materia Medica and Drug Therapeutics.—This subject was discussed at length in a paper by Dr. F. E. Stewart of New York. He concluded by submitting a resolution which, while expressing disapproval of everything tending to create monopolies in medical products and preparations, recognized the necessity of protecting capital invested in the legitimate chemical and pharmacal industries, and therefore the propriety of approving the patenting of processes and apparatus. As an instance he said that the patent on the process for manufacturing acetone-chloroform should be recognized and also the product of such process known as chloretone, but they should not approve

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of extending the protection of the patent to the main product, which in this instance was acetone-chloroform. He also thought they should approve of the registration of trade names for brands of products to be used in connection with their generic or identifying names, provided that formulas were published whereby the products might be duplicated by those skilled in the art; otherwise there was danger that the art of preparing them might be lost to medical science and the interests of the public jeopardized in consequence. He strongly urged the Society to take the initiative in the formation of a National bureau for the purpose of regulating the conditions affecting the manufacture and marketing of medical products and preparations, and at the same time securing uniformity in their strength by means of the establishment of standards. Medical men and pharmacists were alike interested in this, and they should coöperate to prevent medicines becoming subject to the control of purely commercial interests.

Dr. A. C. Barnes of Philadelphia said the question raised by the paper was of the highest importance. It resolved itself into this, How could physicians get reliable information about new medical products and preparations? Things were different here from what they were abroad—in Germany, for example, where all such new products and preparations were pharmacologically studied and then placed in the plinics.

Dr. Leon L. Solomon of Louisville thought the thanks of the Society were due to Dr. Stewart for his persistent efforts to get a bureau of medicine established. The last speaker had sounded the keynote of the situation when he said that what medical men wanted was the truth. They wanted the truth, the whole truth, and nothing but the truth. If they only devised means of getting this, it was of minor importance whether the process or the name were patented or not, for sooner or later they would become public property. As an example of the difficulty of getting the truth under present circumstances, he recalled a report made by a certain doctor on vaccine virus, in which there were 99 per cent. takes. The proprietors of the vaccine wanted the additional fact omitted that in 50 per cent. of the cases sore arms resulted. If the report had gone out in the shape they desired it was evident that it would not have contained the whole truth.

Dr. Satterthwaite of New York suggested that the matter referred to in the paper and resolution might with advantage be referred to a committee with a view of the taking of definite action.

The Chairman said the subject came well within the jurisdiction of the Judicial Committee, and on his recommendation it was referred to that body.

The Inertness of Petroleum Compounds When Given Medicinally.—This paper was read by Dr. Robert Reyburn, Washington.

Dr. A. C. Barnes said there was no doubt about the non-absorption of petroleum, but that was not conclusive evidence that it was of no value medicinally. A paper by a Philadelphia colleague, which was published in the MEDICAL NEWS, caused him to look into the subject, and his experience in several cases of tuberculosis convinced him of the value of petroleum, not on account of its nutritive qualities, but because it acted as an aid to digestion.

Dr. Solomon thought the petroleum preparations were of use in so far that they soothed the intestinal mucosa.

Dr. Reyburn, while agreeing with some of the remarks that had been made, said petroleum was not to be considered a substitute for cod-liver oil.

Dr. Stewart remarked that the subject was a good one to refer to the proposed bureau of medicine, and let the manufacturers furnish the funds for its investigation.

Heart Disease.—This was the subject of three papers, the first being by Dr. Thomas E. Satterthwaite of New York, who discussed the therapeutics of chronic heart diseases and their complications. Notwithstanding all the recent advances in cardiac therapeutics (and the changes of the last ten years had been revolutionary), he said they were less and less disposed to cry up special remedies for special affections. This was particularly true in valvular disease, where they now placed less weight on the importance of abnormal sounds and more on the attendant phenomena and especially on the character of the lesions behind the sounds. The gravity of the lesion was not always measured by the intensity of the sound. A loud and harsh murmur was not incompatible with an average length of life, whereas a valve might be almost occluded, as in mitral stenosis, without giving an recognizable auscultatory sign. With the best opportunities and the largest experience one was not always able to distinguish between a functional and an organic murmur. Again, single valve lesions were the exception rather than the rule, and there were, besides, frequently complications which made diagnosis difficult from auscultatory signs alone. Recent changes in treatment he summed up thus: The idea of complete rest had been supplanted by rest alternating with bodily activity; venesection by determination of blood to the surface through resistant exercises and carbonated baths; hydrogogue cathartics had been replaced by stomachics and mild alteratives and diuretics; heart stimulants by general nerve stimulants or sedatives, alteratives and nutrients; while drugs of the digitalis group were utilized chiefly for their diuretic action in renal complications, mainly parenchymatous, nephritis or abdominal dropsy. Drugs of the digitalis group, including strophanthus, convallaria and adonis, were always uncertain and therefore dangerous, and should only be employed either when other remedies were inadmissible, or in kidney or liver complications for brief periods, or where nothing more was possible than a brief prolongation of life.

Dr. Wilcox said that in the masterly review of

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the subject the author had given them there was one point he had not mentioned, though he had dealt with it in a separate paper some time ago, and that was that in the treatment of cardiac diseases, they were traveling further and further away from the idea of inflammation, and paying more attention to degeneration. The value of rest could not be denied, but the importance of alternating exercise with it could not be too much insisted on. He agreed with the author that they should be more careful than the average doctor was in the use of drugs.

Dr. Solomon maintained that digitalis should still occupy the front rank in the treatment of chronic heart disease, and certain manufacturers were now testing it in such a way as to ensure its uniform strength.

Dr. E. M. Houghton of Detroit said he had been engaged in experimental work on animals with drugs of the class referred to, and the result was to show that they had not the gastro-intestinal irritating effects that were generally attributed to them. His experiments were still in progress; when they were completed he would be pleased to report the conclusions at which he arrived.

In replying on the discussion Dr. Satterthwaite said it was only fair to admit that many good men used some of the drugs of which he had spoken with scant approval.

Dr. J. N. Hall of Denver reported two cases of Aneurism treated by Wiring and Electrolysis, and a paper by Dr. Eli H. Long of Buffalo, on "Principles of Cardiac Therapeutics in Recent Valvular Disease," was read by a substitute, the author being absent.

THIRD DAY—MAY 9TH.

Election of Office-bearers.—The election of office-bearers resulted as follows: President, Dr. Reynold W. Wilcox, New York; First Vice-President, Dr. Howard H. Barker, Washington; Second Vice-President, Dr. Thomas E. Satterthwaite, New York; Third Vice-President, Dr. Leon L. Solomon, Louisville; Secretary, Dr. Noble P. Barnes, Washington; Recorder, Dr. William M. Sprigg, Washington; Treasurer, Dr. John S. McLain, Washington; Curator, Dr. George C. Ober, Washington.

Next Meeting.—It was decided to hold the next meeting in New York on the second Tuesday in May and following days.

Bureau of Materia Medica.—On the recommendation of the Judicial Committee, it was resolved to act upon the suggestion made by Dr. F. E. Stewart on the opening day of the meeting by appointing a committee of three, with Dr. Stewart as chairman, to consider and report upon the question of establishing a bureau of materia medica.

Therapeutic Value of Hypnotism.—Dr. Francis H. Miner, Washington, gave a practical demonstration. The subject upon whom his experiments were conducted was a boy of seventeen, who had been a typical cigarette fiend, but who had been cured by means of suggestion under hypnotic influence. At the close of the demonstration, which included illustrations of so-called psychic blindness and psychic deafness, as well as the more common exhibitions of the influence exercised by the hypnotist, and which was watched and listened to throughout with marked interest, Dr. Solomon asked whether the so-called hypnotic subjects were usually of the class of the boy before them. Dr. Miner replied in the negative, but the other types refused as a rule to come before a medical body for purposes of demonstration. Dr. Solomon further inquired whether hypnotism brought the doctor into good or bad repute. Dr. Miner thought its tendency was to bring the doctor into bad repute. In fact, until the public became educated on the subject, hypnotism could not be used without endangering the reputation of the doctor. Dr. Solomon said he had had some personal experience which was of interest. He made it a point to avoid using hypnotic influence, but on one occasion he had under observation a young gentleman, a lawyer and a man of superior parts, who knew that he (the doctor) could hypnotize. On one occasion he said to his patient quite incidentally, and without the remotest intention of exercising the influence of suggestion, "This medicine I am about to give you will cure you of your smoking." The young man protested that he did not want to be cured of smoking, and said that he would as soon die. Nothing more was thought of the matter until ten days or so afterwards, when the young man called him up on the telephone and complained bitterly that he had taken advantage of him. All desire to smoke and ability to smoke had departed from him, and he wished to get out of the spell. Afterwards at a dinner the young man sent to him asking permission to smoke a cigar. The case was peculiar because he was the only man he had met who was above the general average of hypnotic subjects.

Dr. T. L. Coley, Philadelphia, recalled the fact that Charcot, of Paris, after being a great believer in the therapeutic value of hypnotism, modified his views very much, largely in consequence of finding that he was so often imposed on by his subjects.

Dr. Wilcox, speaking from his own experiences in connection with Charcot's experiments, said he was unfortunate in having as subjects only a number of very excitable and neurotic young women. It was difficult to avoid being deceived, especially when one had subjects of this kind. Dr. Wilcox said he would never hypnotise a patient because, in the first place, of the peculiar reputation it gave a medical man, and secondly because several patients who had come under his observation after being hypnotised showed symptoms of vitiated will power.

Trade and Scientific Names of Drugs.—Dr. A. C. Barnes, Philadelphia, called attention to the fact that the next two items on the pro-

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gramme, "Therapeutic Use of Chloretone," and "Heroine in the treatment of Opium Habit," dealt with drugs which were spoken of under their trade names. He did not think it would be right to allow the discussion of the preparations referred to under such names. It was to be remembered that the society was composed of a body of scientists, and all matters that came before them should be discussed on their scientific basis and under their scientific nomenclature. He suggested and in fact was prepared to move a resolution providing for the adoption of this course at all future meetings. Unless such a rule was laid down the Therapeutic Society would be in danger of getting a bad name and of having undesirable uses made of it.

Dr. Solomon said he was prepared to second such a motion. Dr. Satterthwaite inquired whether the adoption of the motion would prevent the reading of the papers.

Dr. Barnes said that was not his wish. They had on the program two papers by very competent men, and his motion would not interfere with their being read. He simply wished to provide safeguards for the future.

Dr. Stewart repeated and emphasized the remarks he had made on the previous day as to the necessity of distinguishing at these meetings between the scientific and trade names of products and preparations. Of course he did not wish to reflect on any of the manufacturing companies, but on the other hand he did not wish to show partiality for any firm's products. All must be treated on their merits and under their scientific names.

The Chairman said he understood the object was simply to get the matter into proper shape. He was sure there was no desire to discriminate in favor of or against any one.

Dr. Barnes said that of course he had no desire to be discourteous or to reflect on any one. They all, however, wanted to make the Therapeutic Society a scientific body. Commercial interests were of great importance in the advancement of therapeutics, but they ought to insist on only the scientific phase of the subject being considered there.

After some further discussion it was decided to pass a temporary rule providing that papers referring to particular drugs should only be read when these drugs were referred to under their scientific names.

Dr. Houghton was accordingly requested to use the term acetone-chloroform in lieu of chloretone, which he did, though he explained that it had been called chloretone in order to distinguish it from other preparations derived from acetone and chloroform. It might, he suggested, be still more correct to speak of the product by its chemical designation of trichlor-tertiary-butyl alcohol. He then proceeded to review the reports which had been made by impartial observers, all going to show that the drug was useful as a hypnotic, local anesthetic, antiseptic and analgesic.

Dr. Stewart said he thought Dr. Houghton had sufficiently demonstrated the necessity of giving the product a special name, and if the manufacturers chose to donate the name to science he for one would be pleased to accept it, and he thought the society should do the same, just as the British Pharmacopœia did in the case of antipyrine.

Therapeutics of Alcohol.—Dr. Leon L. Solomon of Louisville said while showing that men in good health did not require to use alcohol any more than they required to use tea, coffee or tobacco, referred to its use as a medicine in a large variety of diseases with the view of demonstrating that it was of incalculable value, whether used as a stimulant in the ordinary way or as a local application.

BOOK REVIEWS.

THE TREATMENT OF FRACTURES. By C. L. SCUDDER, M.D. Second Edition. W. B. Saunders & Co., Philadelphia and London.

THIS work is one which deserves strong commendation. It is not too much to say for it that it is certain to occupy, and deserves, a place in the very front rank of authorities upon this topic.

To the X-ray in fractures a careful study is devoted, with abundant illustrations. Much attention is bestowed upon the anatomical basis for diagnosis, with consequent avoidance of blunders in treatment. There is an excellent and sensible chapter upon the ambulatory treatment of fractures of the lower extremity.

Certain points, though not very many, seem fairly open to criticism; and we think the author will perhaps change his views thereupon with added years. For example (pp. 265 and 279), the advice to measure from the anterior superior iliac spine to the internal malleolus, to determine shortening in fracture of the shaft of the femur. It should be an axiom in surgery not to measure over a greater distance, nor more bones, than necessary; lest the natural difference so often found as to the length of the two limbs deceive. Measurement down to the adductor tubercle or other prominent bony point near the knee is wiser.

Again (p. 83) the assertion that cystitis is always associated with fracture of the spine, and, once more, the statement (p. 304) that fatty embolism exists in every case of fracture, would seem too sweeping.

It would have been well in discussing this last topic to have alluded to shock, and have given the differential diagnosis therefrom.

Upon page 106 is figured, under clavicle fracture dressings, the "Velpeau bandage." This seems to be a modification of the third bandage of Desault; it is certainly neither the position nor the bandage taught by Velpeau.

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In the preface the author objects to naming splints of special manufacture, and says such are not described. In general he has followed this laudable plan—with resulting simplicity. However, "Cabot's wire splint" (the book is dedicated to Cabot) is illustrated for various thigh and leg fractures no fewer than seventeen times. And if the Cabot wire splint be discussed by name in thigh fracture, for instance, surely so famous a wire splint as that of Nathan Smith, and also that of Hodgen, deserve at least a mention.

The chapter upon gypsum is the only really weak one. No reference is made to any other plan than that of entirely surrounding the limb, and this, too, is illustrated in eleven cuts.

"Plaster of Paris, when used for fractured bones, is applied either before or after swelling has taken place; if applied before, it constricts the seat of fracture, prevents swelling, and may cause great pain; if applied after the swelling has taken place, it becomes loose as soon as the swelling of the soft parts subsides, and motion of the limb in the splint and of the fractured bones one upon the other is possible" (p. 415). The author is seemingly unaware of the neatest, most comfortable and best of all methods of splinting a leg fracture, namely, that simple modification of the Bavarian splint wherein a plaster sandwich is made by spreading a quarter-inch of plaster cream between two pieces of wet bandage-cloth, to run from toes to knee, up the front of the tibia, but only wide enough to encircle half the leg. This is held in place by a temporary bandage, until it sets, making a perfect mold of the oiled limb beneath; then the bandage is removed and replaced by a few strips of surgeons' plaster. Thus abundant space for swelling is allowed at the back.

In this chapter the author might well have mentioned silicate splints, and the various easy methods of removal of plaster ones. Few will agree with his dictum, "The removal of the plaster splint is difficult. No instrument has been devised that is more efficient than an ordinary sharp jack-knife."

From these random criticisms it must not be inferred that we consider the work unworthy of reliance. On the contrary it is exceedingly able; and the clear demonstration of anatomical guides in diagnosis of fractures at the elbow, wrist and elsewhere, is in itself worth the price of the book.

The number of illustrations—all original—is surprisingly large, and they are exceedingly creditable as to quality and value in explaining the text. To Dr. F. J. Cotton the author gives most of the credit for the artistic work.

TUBERCULOSIS AS A DISEASE OF THE MASSES, AND HOW TO COMBAT IT. Prize Essay, Berlin, 1899, by S. A. KNOPF, M.D., New York. Published by M. Firestack, 200 West 96th Street, New York.

AT the meeting of the "International Congress for the Study of the Best Way to Combat Tuberculosis as a Disease of the Masses," which convened at Berlin, May 24-27, 1899, the sum of 4,000 marks (about $1,000) was donated by two Berlin merchants, lay members of the Congress, as a prize to be offered for the best essay on the subject, "Tuberculosis as a Disease of the Masses and How to Combat It" ("Die Tuberkulose als Volkskrankheit und deren Bekaempfung").

The prize was awarded to Dr. Knopf and this is the successful essay. Those of us who know Dr. Knopf's work will realize that the essay well deserved the prize. At a meeting of the German Central Committee of the International Congress mentioned, it was resolved to publish this essay and arrange for its widest distribution. We are glad to find that Dr. Knopf makes special arrangements for supplying his pamphlet to Boards of Health, Societies, etc., at reasonable rates, for the precious information it contains deserves to be widely disseminated.

A TEXT-BOOK OF DISEASES OF THE NOSE AND THROAT. By D. BRADEN KYLE, M.D. Second Edition. W. B. Saunders & Company, Philadelphia.

THE fact that a second edition of Dr. Kyle's book is called for scarcely more than a year after the issue of the first edition shows how popular this work is. Its popularity seems to be deserved. Treating only of the nose and throat, to which six hundred and twenty pages are devoted, it is very complete. There are 175 illustrations, 23 of them in colors and all of them have a purpose in the book. This second edition differs very slightly from the previous one.

While Dr. Kyle has given due consideration to all the operative procedures in rhinology and laryngology and pharyngology, his book is especially valuable to the general practitioner because of the care with which he goes into details of medical treatment.

There is, perhaps, but one fault that can be found with the book and that is that too many constitutional symptoms and affections of other organs are referred to lesions of the nose and throat, especially the nose. Too many neurotic conditions particularly are attributed to the reflex effect of pathological conditions in mucous membranes. Even this fault, however, is on the right side since the nose and throat specialties have only developed in recent years and the general practitioner is apt to miss the significance of pathological conditions in the upper respiratory tract and their effect on the patient's general condition.

TRANSACTIONS OF THE AMERICAN DERMATOLOGICAL ASSOCIATION. The Twenty-Fourth Annual Meeting, held in Washington, D.C., May 1, 2, and 3, 1900. P. F. Pettibone & Co., Chicago.

THE American Dermatological Association always presents some of the most seriously scientific work of the year. The present volume shows

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that there has been no falling off in that respect and it contains some excellent papers. The three articles on malignant diseases of the skin, namely, "The Nature of Malignant Disease of the Skin and Its Transitional Form," by Dr. E. B. Bronson; "The Etiology and Pathology of Malignant Disease of the Skin Affecting the Epithelial Tissue," by Dr. M. B. Hartzell of Philadelphia, and "The Treatment of Malignant Disease of the Skin" by Dr. F. J. Shepherd of Montreal, are all very practical presentations of phases of an important subject. They furnish such excellent material for the general practitioner that it seems almost too bad not to have them appear together in some periodical that has a wider circulation than the transactions of the Association. The recent interest in blastomycetes is reflected by a series of papers on this subject.

Pulmonary Consumption, Pneumonia, and Allied Diseases of the Lungs; Their Etiology, Pathology and Treatment with a Chapter on Physical Diagnosis. By Thomas J. Mays, A.M., M.D. E. B. Treat & Company, New York.

This is a book strange of its kind. It might be called unique, for it certainly deviates from many of the fundamental principles now accepted by the majority of physicians and authorities on tuberculo-therapeutics. Take for example paragraph 1, of what the author is pleased to call the fundamental concepts of the work, where he formulates the following proposition: "That pulmonary phthisis in the large majority of cases is primarily a neurosis, and that the pulmonary disintegration is secondary." We cannot agree with this, for the nervous phenomena in phthisis pulmonalis are, in the majority of cases, not primary but secondary. The degree of nervousness does not depend upon the amount of tuberculous disintegration, for it varies in every individual, no matter at what stage of the disease, and in some it is even absent in the earlier stages.

Proposition 2, "That any agent, influence, or condition which undermines the integrity of the nervous system will engender pulmonary phthisis, or some other form of pulmonary disorder" would also be objected to by the majority of physicians familiar with the disease. There are agencies and conditions which may undermine the integrity of the nervous system and still do not affect the condition of the lungs. Acting, public speaking, singing, gambling at the Stock Exchange, etc., are very apt to affect the nervous system of some individuals seriously, and yet they rarely die of phthisis. In sanitariums for nervous diseases pulmonary diseases are relatively rare and, while we are willing to admit that, on the other hand, tuberculosis is frequent in insane asylums, the cause of this should be sought in the usually very crowded condition of these institutions and the presence of a few consumptives who infect the non-tuberculous ones.

Proposition 3 reads as follows: "That the only remedies of value in the treatment of pulmonary phthisis are those which appeal to, and act through, the nervous system." Now, the most important remedy in pulmonary tuberculosis is fresh air, in other words, aerotherapy, consisting in deep breathing, regular respiratory exercises, rest in the open air, sleeping at night with the window open, walking and exercising in the air, etc. It seems that this remedy acts first through the respiratory system, unless we are mistaken it is now the general opinion that air comes perhaps nearer to being called a specific remedy in pulmonary tuberculosis than anything thus far discovered. Tonics and cod-liver oil, indispensable in many cases of pulmonary tuberculosis, exert their beneficial influence through the digestive system by improving nutrition and assimilation.

Dr. Mays is an enthusiast over the treatment of phthisis by silver-nitrate, and he expresses his opinion in this respect in proposition 4 as follows: "That of special value in the treatment of phthisis is the counter irritant action of silver-nitrate introduced hypodermically over the vagi in the neck." Counterirritants will always be of value in the treatment of phthisis, but whether the hyperdermic injection of silver nitrate over the vagi in the neck is superior to the "points de feu" (igni puncture), a good, strong, old-fashioned mustard plaster, or other counterirritants more easily applied, the future work of Dr. Mays will probably decide.

The last proposition (5) "That acute pneumonia and other forms of acute pulmonary disease are closely affiliated with disorder of the nervous system" also deserves some criticism, for experience has taught that people not infrequently succumb to pneumonia who were really known as what are commonly called "people without nerves."

The portion of the book devoted to physical diagnosis is good. It is, however, to be regretted that in a modern book the chapter on infection should so strongly yield to the idea that consumption is not a communicable disease. We do not ourselves like phthisiophobics, but pulmonary tuberculosis must be considered a highly communicable disease. Dr. Mays quotes men who are well known to be antagonistic to the contagion theory, for example, he says on page 203: "Dr. Aufrecht, after referring somewhat extensively to the contagion theory, says . . . . and less justifiable are the reckless conclusions drawn by Koch concerning the etiological indication of the tubercle bacillus." In quoting Dr. Dettweiler, when the latter writes of the freedom from phthisis of those who are engaged in the care of consumptives in the hospital, he forgets to add that the most scrupulous care is exercised with the sputum of the patients, that each one has his individual pocket spittoon, in short, that everything is done to prevent infection of others or reinfection of the patient. At the Adirondack Cottage Sanitarium, one of our most famous and successful American institutions, infection among the

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nurses has never taken place, and the physicians and employees explain this solely by the extreme care taken with the infectious sputum. As a contrast to this we beg to refer Dr. Mays to the statistics of Cornet, Kirchner and Debove, showing the unusually great mortality from tuberculosis among the nurses in general hospitals where all classes of patients, including consumptives, are treated. The quotation of cases where contagion had unmistakably taken place is turned over in this volume to favor the nervous theory.

The book does not contain a word of the efficient work of municipal prophylaxis in European cities and in cities of our own country, such as New York, Philadelphia, and elsewhere, and the subsequent reduction of the number of deaths from tuberculosis, nor mentions that in other countries and cities, where such prophylactic measures do not exist (Austria, Russia, etc.), the mortality from tuberculosis is still on the increase. The now-so-absorbing question of State and municipal sanatoria or special consumptive hospitals for the poor does not receive the slightest mention in Dr. Mays' work.

With all due respect for the earnestness and enthusiasm of Dr. Mays as a teacher, physician and writer, the book before us cannot be considered as one up to date.

THE AMERICAN YEAR-BOOK OF MEDICINE AND SURGERY, being a Yearly Digest of Scientific Progress and Authoritative Opinion in all Branches of Medicine and Surgery, Collected and Arranged under the General Editorial Charge of GEORGE M. GOULD, M.D. Volume on Medicine. W. B. Saunders & Company, Philadelphia and London.

THIS is the medical part of the American Year Book. As is stated in the preface, the experiment made last year in issuing the work in two volumes has proved very acceptable to subscribers and is continued. Dr. Gould announces that the single change in editorship for the present year is the association of the "scholarly pathologist, Dr. A. O. J. Kelly, with Dr. Riesman in the Section on Pathology." Of the review of special subjects, those of Pediatrics by Dr. Lewis Starr and Dr. Alfred Hand, Jr., of Philadelphia, that of the Diseases of the Skin and Syphilis by Dr. Lewis Duhring and M. B. Hartzell of Philadelphia, and the review of general medicine by Dr. Alfred Stengel and Dr. D. L. Edsall of Philadelphia, are especially interesting.

The discussion of typhoid fever contains a very practical résumé of recent investigations of this important disease. The question of the influence of other micro-organisms in favoring infection with the typhoid bacillus, of the possibilities of infection from shellfish, especially infection from eating cockles, and from hitherto unreported sources, are particularly interesting.

In the review of the literature of gastric ulcer it is clearly to be seen that there is a marked difference in the gastric ulcers that occur in the two sexes. Ulcer occurs five times more frequently in women than in men, but while it causes death in less than two per cent. of the women, there is a fatal termination in 17 per cent. of the cases in men. Ulcer, as a rule, also occurs much later in life in men.

Certain phases of syphilis in recent literature are striking. For instance, the impression is gaining ground that inherited syphilis may prove contagious. Fournier reports certain cases of syphilis that proved absolutely obstinate to specific treatment. Syphilis shows a marked tendency to recrudescence of symptoms in the presence of certain contagious diseases, notably influenza.

The chapters on Materia Medica contain some very practical discussions as to the use of new drugs. Sodium cacodylate, for instance, which has attracted so much attention during the past year is discussed in a way to give a very good idea of its present sphere of employment. Urotropin is quoted as having apparently secured a permanent place in therapeutics. The use of gelatin in various ways as a hemostatic and of formaldehyd in various forms as an internal and external antiseptic are other interesting bits in present-day treatment.

It is impossible satisfactorily to compress a year's medicine within so small a compass, but on the whole the American Year-Book forms a very useful review for the busy practitioner of recent advance in medicine. The index to this volume consists of nearly fifty pages and is an excellent list of cross references to the contents of the book. This is a very praiseworthy feature too often neglected.

THE INTERNATIONAL CLINICS. A Quarterly of Clinical Lectures and Especially Prepared Articles on Medicine, Surgery, etc., by Leading Members of the Medical Profession Throughout the World. Edited by HENRY W. CATTELL, M.D., A.M. Volume I., Eleventh Series, 1901. J. B. Lippincott Company, Philadelphia.

OF the three hundred odd pages of the present number of "International Clinics" a little over 100 are devoted to a review of the progress of medicine during the year 1900. This is necessarily crowded and fragmentary, although parts of it are very well done. The first 18 pages of the book are taken up by notes on new remedies. This department is under the care of Dr. Stevens of Philadelphia, whose name is sufficient warrant for the thoroughly practical character of the material to be found in this section.

Among the clinical articles there is an especially good one on gonorrheal rheumatism by Campbell Williams, F.R.C.S. Dr. Williams calls attention to the fact so often missed that the inoculation which produces gonorrheal arthritis

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may result from an abrasion of the fossa navicularis caused by the introduction of a sharp-pointed syringe, or from a minute laceration of the urethral mucous membrane due to the passage of instruments.. In two severe cases of urethral arthritis, as Dr. Campbell prefers to call it, he has seen the onset of the disease follow very shortly after acupuncture for preputial edema.

There is an excellent review of the subject of spinal anesthesia by Dr. A. Doleris, accoucheur to the Boucicault Maternity of Paris, as far as this procedure is applicable in obstetrics. He has used it now in twenty-five cases, ten primipara and fifteen multipara. Cocaine anesthesia has according to him, the following advantages: Absolute freedom from pain from the time the lumbar injection is made, increase in the uterine contractions, quicker labor, increase in the power of retraction of the uterus, and great decrease in loss of blood during delivery.

Dr. W. H. Walmsley, Fellow of the Royal Microscopical Society of London, has a very suggestive article on some practical methods in photomicrography. There are articles by Dr. John Deaver, Professor Hallopeau, Professor Delafield, Dr. Solomon Solis-Cohen and Professor Rodman, that are thoroughly practical in character.

A System of Practical Therapeutics. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia; Physician to the Jefferson Medical College Hospital. Second Edition. Revised and Largely Rewritten. Lea Brothers & Co., Philadelphia and New York.

The Hare's "System" of ten years ago will hardly be recognized in this new edition, so complete are the changes, so extended the dissertation and so complete the redress. The additions alone are sufficient to make a new volume. There are twenty chapters which are here given in general outline: General Therapeutic Considerations by Horatio C. Wood; Prescription Writing by Joseph Remington; General Sanitation by Henry B. Baker; Foods, and the treatment of Obesity and Leanness; General Exercises by E. M. Hartwell; Rest Cure by John K. Mitchell; Electrotherapeutics by A. D. Rockwell; Hydrotherapy by S. Baruch; Climate by S. Edwin Solly; Mineral Waters by James K. Crook; Massage by R. E. Moore; Disinfection by W. M. Coplin; Diseases of the Thyroid and Thymus, Myxedema, Cretinism, Grave's Disease and Obesity by S. J. Meltzer; Chronic Articular Rheumatism, Rheumatoid Arthritis and Gout by James Stewart; Diabetes Mellitus by James Tyson; Diseases of the Blood by Ralph Stockman; Present Treatment of Syphilis by Edward Martin; Treatment of Tuberculosis by Lawrence F. Flick, Scrofulosis by Walter Chrystie and Scurvy by C. E. Banks.

The choice of subjects is wide and the names of the authors are a sufficient guarantee of the character of the mode of treatment. Even a superficial glance through this volume brings into prominence the dominant feature of the work; one that the well-known editor constantly presents, namely, the every-day workability of treatments advocated. Here are no lengthy theoretical dissertations largely padded by quotations from European authors, but concise, practical rules that can be made to fit present-day needs. *What, why* and *how* are the questions with reference to the use of drugs that the authors answer—particularly the *how*.

The International Medical Annual. A Year-Book of Treatment and Practitioner's Index. With a Series of English and American Contributors. 1901, Nineteenth Year. E. B. Treat & Company, New York.

Treat's "Annual" is well known and its alphabetical arrangement and concise reviews of practical subjects, give it a place of its own. In the department of therapeutics, a special article has been contributed on toxins and antitoxins by Professor McFarland of Philadelphia and Dr. William Morrell.

The article on tuberculosis in this volume is especially satisfactory. It is written by Professor Charles Ruata of Perugia, Italy, who says: "My aim is to give an answer to the following questions: When a physician discovers a tuberculous infiltration existing in a lung, how long is it since the disease began? How does the specific bacillus reach and spread in the lungs? What is the influence of the specific bacillus on the length of the disease and on death from phthisis? The question of heredity, the question of treatment." The answers to these questions furnish an excellent résumé of the present state of knowledge with regard to tuberculosis.

The article on cancer, by Mr. Keith W. Montserrat, F.R.C.S., is another good discussion of an important subject. In general we can find nothing but praise for this excellent manual, though its brevity necessarily lessens its value in the present large field of medical progress.

BOOKS RECEIVED.

The Medical News *acknowledges the receipt of the following new publications. Reviews of those possessing special interest for the readers of the* Medical News *will shortly appear.*

A Treatise on Appendicitis. By Dr. George Ryerson Fowler. Second Edition. 8vo, 235 pages. Illustrated. J. B. Lippincott Company, Philadelphia and London.

The Treatment of Fractures. By Dr. C. L. Scudder. Second Edition. 8vo, 457 pages. Illustrated. W. B. Saunders & Company, Philadelphia and London.

Experimental Psychology. A manual of Laboratory Practice. By E. B. Titchener. Vol. I. 8vo, 214 pages. The Macmillan Company, New York.

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ORIGINAL ARTICLES.

SOME FACTORS RELATING TO THE ETIOLOGY OF PROSTATIC ENLARGEMENT.[1]

BY J. BENTLEY SQUIER, M.D.
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EVER since clinical observers of urinary disorders have begun to appreciate the relation existing between prostatic lesions and some urinary difficulties, there has been a deeply-rooted idea that the most common affection, namely, prostatic enlargement is a condition of advancing years. A senile change similar to connective tissue deposits in other organs of the body which make their appearance with old age.

Guyon believed it to be a part of a general atheroma and said, in one of his articles upon the subject, that in his experience *"les prostatiques"* are always of advanced years. "You will not, for example, meet a man of forty years (*quarante ans*) with a true hypertrophy." Opinions of this kind, no doubt, have been inculcated largely by the fact that it is in old age that the symptoms of its effects are most marked, as well as by its appalling frequency at that period of life. When we think that, putting it roughly, one out of every three men has some degree of prostatic enlargement after reaching middle life, and that one out of five has enough to cause symptoms from which he must seek relief, the importance of the condition is manifest.

These figures are somewhat larger than those given by Sir Henry Thompson and Sir Reginald Harrison, but data of this kind are difficult to obtain and often misleading. For instance, Sir Henry Thompson believed the frequency to be one in seven or eight. Messer in one hundred examinations found 35 per cent. abnormally enlarged (1 in 3) Ditue, in one hundred and fifteen workhouse inmates, only 18 per cent. Socin believed the first more nearly correct, accounting for Ditue's low percentage by the class examined. My own observations at the almshouse bear out Socin's idea, but the percentage has been even smaller than Ditue's.

As the above are the authorities from which most statistics have been derived I have quoted them.

Thus, at the time in a man's career when he should do his best work, when he should reap the harvest of his early endeavors, and is looking forward to a comfortable old age, he is suddenly made aware that he is a victim of a disease which, creeping upon him insidiously, saps his vitality, renders him a slave to his bladder, and makes pyogenic infection of his urinary tract with its dire results hang over him like a sword of Damocles, ever ready to fall upon some lapse of surgical cleanliness. Advanced thinkers, however, are beginning to cut loose from the antiquated idea that prostatic hypertrophy is only a senile condition, although many of the modern text-books still cling to it with bulldog tenacity, and are finding facts which show that prostatic enlargement is not a disease of old age, but that its foundation is often laid at the incipiency of a man's sexuality.

It is with this idea in view that I wish to draw your attention to a few remarks bearing upon the subject.

While it is not the writer's intention to enter into a detailed discussion of the anatomy or physiology of the prostate, it may be well to mention a few of the more prominent features. We must appreciate that the prostate is not only a band of muscular fibers concentrically arranged around the bladder neck, but a highly-organized, secreting body partaking of as important a part in the sexual function as any of the various organs which comprise the sexual apparatus.

Three structures entering into its composition may be described, namely, the tubular glands, with their ducts; the smooth muscle forming the sphincter vesicæ internus, and the striped muscle forming the sphincter vesicæ externus. In addition through its walls run the ejaculatory ducts. The glandular elements do not reach full development before puberty and in some the muscular elements predominate throughout life, so that in one person the secreting function may predominate and in another the motor. This difference can be often felt by rectal touch and probably has a direct relation to the variety of hypertrophy which may develop later.

The prostate's part in the physiology of the sexual act is threefold, namely, (1) to close the bladder orifice at the time of ejaculation; (2) to supply a fluid which enters into the composition of the semen, as well as exuding into the urethra before ejaculation, neutralizing any urine which might be in the urethra and by its acidity destroying the activity of the spermatozoa, and (3) to aid in the expulsion of the semen at the climax of the sexual orgasm. All of these functions are to a large extent dependent upon an active congestion of the gland. The swelling of the prostate caused by its increased blood-supply completely closes the bladder opening. This same blood-

[1] Read before the St. Luke's Hospital Alumni Society, Feb. 8, 1901.

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supply produces an increased activity in its secretory function. The muscular contractility although centrally produced reflexly by irritation of the glans penis is also brought about by the reflex irritation of the nerve filaments in the prostate due to its distention. It has a dual purpose of aiding in the ejaculation and afterward, by expelling the blood from its dilated sinuses, of reducing its transient hyperemia. With this but meager allusion to the great physiological importance of this organ one can readily perceive how continued practices, perverting its normal function and disturbing its vascularity, will, as is evidenced in other organs of the body, the kidneys, liver, spleen, lungs, etc., eventually lead to interstitial changes causing pathological conditions.

We believe this to be one of the most potent predisposing factors in prostatic hypertrophy. If the sexual history of prostatic cases be carefully gone into, one will find that a surprising majority have abused their sexual apparatus to a greater or less extent and have kept up a constant hyperemia of their prostate for years, through total ignorance of the importance of hygiene in their sexual life. Modern society, with a false modesty, educates its youths in almost everything except giving them a true knowledge of their reproductive powers, and when a boy begin to appreciate that his penis is something more than a water pipe and inquires about it, he is too frequently told that "he must not talk about such things," "that he will learn in time." Not satisfied with this he goes to some friend, possibly only a few months his senior, and is instructed about that function which really is the chief end of man. To use the words of Krafft-Ebing, the function which "forms the most powerful factor in individual and social life. It is a mighty impulse for bringing into action our most effective energies, for acquiring property, for the foundation of a home, for rousing altruistic feelings for a person of the other sex, first, and, later, for one's children, and in a wider sense, for the whole human family."

Let us follow such a boy through his sexual life. He learns to masturbate from the instructions of this comrade and continues the habit for a number of years until he reaches what has been termed the "conscientious age." He now worries lest he has done himself injury and manfully tries to stop it. Suppose now he meets young women who will permit all liberties except the sexual act and the boy, who is now a young man, indulges himself, and unfortunately will take occasion to enjoy such women as often as possible. Such ungratified desire increases his sexual hyperemia and he seeks relief from a physician who advises him to go to women. This he does and, leaving out the question of venereal infection, his condition is aggravated because these embraces are not normal ones. He may or may not be stimulated by alcohol at these times, but he usually tries to perform the act as many times as possible if not for his own gratification for that of his paramour. To go on further, this man marries and for various reasons, financial, social or otherwise, or because that by this time his hyperexcitability produces precipitate ejaculation and he is unable to awaken an orgasmic response in his wife and she, feeling that there is nothing in the sexual relation for her except childbearing, decides not to have children and they adopt withdrawal as a means to the end. This is often done, I am sorry to say, upon the advice of a physician. So the man lives in a state of sexual congestion for a number of years until various sexual neuroses develop which render him more or less impotent. It is for this condition that he usually first seeks medical relief. If you examine him by the rectum you will find a broad, flabby prostate, very tender, and in the region of the verum montanum, exquisitely so. The muscular fibers have lost their tone by the constant overdistention with blood and the glandular elements have become hypertrophied because of the extra amount of work forced upon them. Fluid can be expressed from the dilated acini and although the patient may not complain of urinary symptoms, even at this period questioning will frequently bring out the fact that there is an increased frequency of urination as well as hesitancy in starting the stream. Residual urine is uncommon at this stage, probably because the bladder muscle has not yet lost its tonicity and can overcome the existing degree of prostatic obstruction. While we do not believe that the foregoing history, which is not a hypothetical one, but that of a patient now under treatment, would cover every case of beginning prostatic enlargement, men's sexual lives being too varied to admit of such a possibility, we feel confident that abnormal sexual indulgences which tend to keep up a chronic hyperemia in the gland are more often a forerunner of subsequent enlargement than is senility, gout, rheumatism or atheroma, which are among the "chief causes" given in a popular work recently published.

It is not to be inferred that it is the few acts of masturbation practised by the irresponsible boy, the involuntary sexual stimulation which the healthy man may experience during the caresses of his affianced, or the irregular sexual debauches of a *roué*, which lead to a chronic hyperemia, any more than it is that infrequent alcoholic excesses lead to cirrhotic changes in the liver and kidneys. It is the persistency with which these men carry on these sexual aberrations over a long period of years which eventually produces lesions in the same way that the steady, quiet tippler becomes heir to a hob-nailed liver.

So much, then, for general considerations, but what Americans want is facts, so I wish to place before you some data which have been gleaned from three hundred cases of prostatic

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enlargement in which a detailed account of the patients' sexual life has been recorded.

The first hundred have to deal with the condition known as prostatic congestion and the remaining two hundred with true hypertrophy. This distinction is, of course, to a large extent an arbitrary one, the conditions being so closely allied and so often present together that the difference is more of a clinical than of a pathological nature. It has been through the courtesy of Dr. L. Bolton Bangs that I have been able to use these histories in compiling these percentages, they being the records of patients who have been under his care during the past few years.

They represent men of the higher walks of life of almost every profession and it is an unfortunate commentary upon our own profession that so many of its number are upon the list, gynecologists and dentists being most frequently the victims. Some of the patients have been treated for sexual congestion, have been lost sight of, and years later have returned with symptoms of prostatic obstruction. Of the cases of sexual congestion, leaving out those complicating venereal diseases or acute inflammation, there are three abnormal sexual acts which have been indulged in excessively in over 85 per cent. of the patients, namely, masturbation, prolonged sexual excitement without gratification and *coitus interruptus*, also known as withdrawal or frauding. The number of years before their evil effects have become apparent seems to have a direct relation to the physical condition of the patient.

One of the patients was taught to masturbate at six years of age, continued it until he reached his twelfth year, when he began to have coitus. Until twenty-four he continued both when he developed symptoms of impotency. Rectal examination showed an exquisitely tender prostate almost twice its normal size.

The symptoms complained of in these patients have been sexual neuroses more often than urinary difficulties.

In the cases of hypertrophy, *coitus interruptus* has been present in 60 per cent. of the patients, masturbation and dallying in 25 per cent., and but 15 per cent. gave normal sexual histories.

Excessive sexual intercourse has been present to a large extent and especially among that class of patients known as *fraudeurs*. Their ability at first to perform coitus so frequently has been attributed to the fact that the quantity of semen lost is less when this form of coitus is indulged in. The true explanation probably is that they do not relieve their sexual congestion and that their nerve-centers are overstimulated by the peripheral irritation due to this congestion keeping them in a constant state of hanker. Eventually, however, they lose the sexual sense and, as has been previously stated, have their attention first drawn to their condition by failing virility. Many other things produce prostatic hypertrophy which we have not enumerated, it being the writer's intention merely to show the frequency of the afore-mentioned causes in a large number of patients.

In the 15 per cent. of the cases in which no sexual aberration was present there were a number whose primary prostatic congestion was apparently due to a derangement of the portal circulation. They were men of sedentary habits who had suffered from functional or pathological disturbances of the liver.

We are not riding a hobby, as the Germans said of Bergeret, when he first wrote of the evils of frauding, neither are we so dogmatic as to think, with them, that no good can come out of France.

The age when a physician figured only as a healer of disease has departed. Now he instructs how to avoid it and as we have taught people how to live, so that the precautions against many diseases are ordinary household observances, so ought we to teach them the value of hygiene in their sexual relations.

29 East 44th Street.

GASTRIC ULCER AND MUCO-MEMBRANOUS COLITIS AT THE PARIS CONGRESS.[1]

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Two subjects in gastro-intestinal diseases were selected for special reports and discussion at the last International Medical Congress. These subjects, gastric ulcer and mucous colitis, have attracted considerable attention in the medical world of recent years. It seems worth the while, therefore, to invite further discussion by a brief review of some of the points that seem of special interest.

Gastric ulcer is not nearly so rare an affection as it used to be considered. Not only does it occur idiopathically with much more frequency than was thought, but it forms at times a serious complication in infectious diseases and in diseases of the circulation and metabolism. As the Fenwicks have stated in the preface of their recent book, Ulcer of the Stomach and Duodenum, gastric ulcer is not infrequently the unsuspected cause of death in certain infective complaints and in diseases of the heart and liver.

Despite the recent increased interest in gastric ulcer the etiology of the affection remains a subject of almost as much uncertainty as ever. A number of theories have been advanced to account for its origin and it is possible that most of them describe elements of etiology that act as adjuvant factors in the production of the affection. One thing is certain, ulcers having the typical characteristics

[1] Read before the Section on Medicine of the New York Academy of Medicine, November 20, 1900.

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of gastric ulcers occur only at those parts of the digestive tract in which there is free acid bathing the surface of the mucous membrane. These are the stomach, the duodenum and the gastric end of the esophagus. Duodenal ulcers resemble exactly those which occur in the stomach. Ulcerative lesions below the pancreatic duct, where the pancreatic secretion has neutralized the acidity of the gastric contents occur very rarely and are of a superficial character markedly different from the deep erosion which characterizes the gastric and duodenal ulcer. Erosive ulcers occur, however, at the gastric end of the esophagus where the regurgitation of the stomach contents causes the mucous membrane to be frequently bathed by free acid.

There is little doubt that gastric ulcers are due to self-digestion of the stomach wall. The predisposing factor that leads to this self-digestion is in dispute. Such distinguished authorities as Rokitansky and Virchow attributed the digestion of the gastric mucous membrane to a disturbance of the circulation in the gastric mucosa and consequent lowering of the resistive vitality of the tissues. Virchow thought that the disturbance of circulation was due to embolism. He pointed out that the gastric ulcer has many points of analogy with infarct of the lungs. As is well known, however, gastric ulcers occur by preference in the pyloric end of the stomach. Embolism of the stomach arteries occurs practically always at the cardiac end. Experimentally no one has ever been able to produce embolism in the blood vessels of the pyloric region alone, yet solitary ulcers are usually situated here.

Two kinds of change in the blood of individuals predispose them to the occurrence of gastric ulcer. Anemia and the blood disturbance due to an infective condition somewhere in the body. It has been pointed out by Einhorn, I believe, that anemic patients are especially prone to suffer from gastric hyperacidity. Whether hyperacidity exists in infective conditions, or not, remains to be investigated. It would not be surprising, however, to find it. One of the simplest methods of inhibiting bacterial growth is to acidify the medium on which the micro-organisms are growing. It has been pointed out that one of Nature's protective mechanisms against infection is very probably an increase of the acid in the system, because of the effect this has upon micro-organismal growth. The occurrence of gastric ulcer only where free acid occurs and the fact that those who are especially predisposed to its occurrence frequently have gastric hyperacidity would seem to furnish the best clue to the origin of the affection. It is probable that certain irritative and traumatic influences are the immediate and localizing causes and that their absence permits many cases of gastric hyperacidity to run their course without the occurrence of gastric ulcer.

Further study of the affection to be fruitful must take account of one feature of the disease which has thus far been neglected. All gastric ulcers have been grouped under one head. This is rather the chronic form of the affection. There seems to be a distinct nosological entity, however, which may be called acute gastric ulcer. Symptoms of this affection occur almost always without warning. The most characteristic symptom is profuse bleeding. The affection occurs particularly in young women who are confined to the house, domestic servants, governesses, dressmakers and those in whom a sedentary, indoor occupation has induced a condition of anemia. Acute ulcer is noticed not infrequently in infectious diseases. Dieulafoy at the Paris Congress called attention to the frequency with which these ulcers are due to the pneumococcus. In a certain number of cases of death, the result of sudden profuse hemorrhage from the stomach, he has found minute ulcers of the stomach from which pure cultures of the pneumococcus could be obtained. These pneumococcus ulcerations are not necessarily connected with pneumonia nor with any affection of the lungs. As another French observer has pointed out, however, they may occur during pneumonia and then they make the prognosis of the case very unfavorable.

Another interesting form of gastric ulcer is that which occurs during the course of appendicitis. Dieulafoy particularly has called attention to this and the affection is spoken of by French writers as appendicitis with black vomit. It seems almost surprising, when we consider how much attention has been given to appendicitis in this country, that this symptom has not been noted more frequently. Dieulafoy has found that it occurs particularly in cases in which there exists a tendency to systemic infection and he attributes the origin of the ulcer to the change in the blood induced by the septic elements that have found their way into the circulation. We may recall that Von Jaksch called attention to the fact that acute gastric ulcer occurred with special frequency in puerperal women. It is probable, however, in these cases that it was not so much the puerperium that was the causative element in the case, as some one of the infective conditions to which puerperal women are so liable.

Now that the conditions in which gastric ulcer develops are more clearly defined, the prophylaxis of the affection seems worth considering. Gastric superacidity undoubtedly plays an important rôle. To this, the addition of some irritant seems necessary for the production of the ulcer. It is important therefore that patients who are anemic, or who are suffering from subseptic conditions should be given remedies to lessen the gastric acidity, as also the acidity of the blood to which the gastric secretion owes its abnormality. All irri-

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tating substances should be carefully excluded from the diet and anemic patients should be warned against the danger of swallowing coarse food, or any sort of food that has not been thoroughly masticated. Needless to say they should be warned also of the danger of even slight trauma of the abdominal walls during the anemic condition.

Gastric Ulcer and Nervous Gastric Affections.—It was a favorite saying of Professor Oser of Vienna that nervous affections of the stomach can and do simulate every form of stomach affection known. This was illustrated very well by the fact that German and French clinicians reported a series of cases in which hemorrhages, sometimes quite severe, had taken place without any rupture of the mucous membrane of the stomach. In two cases at least operations had been performed with the expectation of finding a gastric ulcer. Ewald reported some cases in which he felt sure from the after-course of the disease that the hematemesis was due to nervous conditions and not to any actual erosive lesion of the gastric mucous membrane. In one case at least this opinion was confirmed by autopsy. Nervous gastric crises are now known to occur in many other diseases than locomotor ataxia. The possibility of their occurrence in any given case greatly adds to the difficulty of positively diagnosing ulcer of the stomach except when the course of the disease can be faithfully followed and carefully studied.

Treatment.—The most interesting thing about the discussion on gastric ulcer was the unanimity of physicians and surgeons in the expression of the opinion that surgical measures should be resorted to much more frequently than they have been. Dieulafoy insisted that as soon as hemorrhage becomes profuse enough to be alarming or recurs frequently the only safe therapeutic procedure is to open up the stomach, tie the bleeding vessel and excise the ulcer. Dr. Ewald of Berlin said that he finds himself in the position of having recourse more and more to the surgeon's aid in the treatment of gastric ulcer. If hemorrhage is alarming this is the safest method. Where ulcers prove very obstinate to treatment, however, two things must be borne in mind. First, that recovery by ordinary healing processes in these chronic cases almost inevitably results in future disturbance of stomach function because of contractile deformation of the stomach and interference with its motilty. Second, old ulcers and their scars are especially liable to be the seat of gastric cancer. Either of these sequelæ may necessitate recurrence to the surgeon later in life when the patient's condition is not so favorable for operation and when the prospects of complete relief or ultimate recovery are very much obscured by the complications that have developed. The tendency of modern surgeons is, of course, very distinctly in the direction of more frequent operations upon the stomach for benignant pathological conditions. The statistics of such operations and the relief afforded by them justify the extension of gastric surgery that they advocate.

A series of interesting communications were made to the Congress with regard to the use of olive oil in painful affections of the stomach. Careful clinical observers on both sides of the Rhine (and English medical men have the habit of saying that when observations made on one side of the Rhine are confirmed on the other there is surely something in them) claim that they have obtained marked relief in obscure painful conditions of the stomach by administration of large doses of olive oil. From 100 to 300 grams (3 to 10 ounces) of the oil are prescribed in the twenty-four hours. These large doses of oil seem to have been of special service in cases of gastric ulcer. Strauss of Berlin has seen them do good where all other means have failed and where even rectal feeding had proved unsuccessful. Matthieu of Paris said that he was skeptical as to the effect of the oil when he first tried it, being inclined to think it no more than an old popular remedy become a new fad, but experience proved it to be an extremely valuable therapeutic measure. He always has recourse to this method in obscure gastric discomfort. It was pointed out that the administration of morphine even hypodermically was contra-indicated in these cases because morphine is eliminated by the stomach and its presence increases the gastric hyperacidity already present. Atropine may be used, but there has been need of some simple sedative, such as is supplied by the oil.

Muco-Membranous Colitis.—There is no doubt that this interesting and little understood disease is on the increase in our time. The exact amount of increase is, however, not easy to determine. Statistics will have to be analyzed with great care if the actual increase in the number of patients with the disease is to be found. Mannaberg of Vienna said that in the last three years only twelve cases of the disease have been under observation in Nothnagel's clinic at the Vienna General Hospital. During this same period, observers in France have been seeing hundreds of cases of the disease. At Plombières, a noted watering place in France with a reputation for the cure of the disease, four hundred cases of mucous colitis have been under treatment within a very short time. Mannaberg insists that there are two conditions included under the name mucous colitis, which should be carefully differentiated. These are, first, mucous colic, a painful condition of the intestine followed by stools which contain mucus. The other, a recurring affection of the intestine in which patients' stools contain mucus and shreds of membrane and the general condition is affected. Mucous colic is a pathological incident. Mucous membranous colitis is a path-

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ological condition. If mucous colitis were as common as it is reported by French observers there would surely have been many more cases observed in Professor Nothnagel's clinic, for during recent years the investigation of intestinal disease and especially of the stools have been subjects of special study in the clinic. Perhaps the difference in the statistics points to the essentially nervous origin of the disease. The high-strung nervous French suffer very often; the phlegmatic Austrians escape.

Boas of Berlin insisted that mucous colitis has become much more frequent in recent years. He attributes this increase of frequency to two causes. First, the struggle for life has become more intense in our day and the nervous conditions which are practically always the basis of muco-membranous colitis have as a consequence become much more frequent. The second cause, is the present, common abuse of laxatives. Most people consider themselves perfectly justified in treating constipation in their own way whenever it arises and various forms of irritative purgatives are employed in constantly increasing quantities for the purpose of arousing peristalsis. As the constipated habit grows more inveterate the amount of irritation needed to produce evacuations of the bowel must also be increased. In addition to this, the presence for long periods, of fermenting fecal material adds to the irritation of the colon. The consequence is that the chronic condition of nervous hyperexcitability and irritative congestion of the colonic mucous membrane leads to hypersecretion of mucus and to the deposition of pseudomembrane.

Dr. Boas said that some of the difficulty with regard to constipation in our day came from the fact that fats did not enter as plentifully into the modern dietary as they should. The absence of fatty matter in the stools made them more irritating, allowed them to dry up more easily into scybalous masses and in general hindered the natural mechanism for the easy passage of feces through the colon.

The nervous element is evidently the most important factor in the etiology of the disease. A number of observers pointed out its special liability to occur in nervous women and the fact that it sometimes seems to replace symptoms in the genital sphere. One observer pointed out that this proneness of the disease to serve as an equivalent for symptoms in the genital tract was true where the disease attacked men also. Symptoms of prostatism are sometimes replaced by an acute attack of mucous colitis. On the other hand, when the disease occurs in young men it is nearly always in conjunction with sexual neurasthenia and has been known to occur as the result of worry in a nervous individual during the course of a gonorrhea with complications.

The pathological basis of the disease is not known exactly. Fortunately very few patients die from muco-membranous colitis itself. In most of the reported cases where autopsies have been secured no lesions were found in the intestinal tract. Dieulafoy called attention to the fact that if the basis of the disease were a true inflammatory colitis a spread of the inflammation to the appendix might be expected to occur in a certain percentage of the cases. He has never had a case of mucous colitis under treatment in which appendicitis occurred as a complication. On the other hand, he has carefully collated the records of 700 cases of appendicitis that have occurred under his own observation and in but one or two instances was there any history of mucous colitis having preceded the attack. Potain confirmed Dieulafoy's observation with regard to a complete absence of any connection between mucous colitis and appendicitis. If the appendix were liable to be affected in this condition at Plombières, where several hundred cases of mucous colitis are often under treatment, there would be need of a surgeon in constant attendance for consultation in appendical complications. This absence of infective power argues against the existence of any inflammatory condition as the basis of mucous colitis and seems to stamp it essentially as a nervous disease.

Dieulafoy said that patients suffering from mucous colitis who have any anxiety as to the possible occurrence of appendicitis can be given absolute reassurance of their freedom from the liability to appendical complications without any necessity for carrying their appendices in their vest pockets.

While constipation is the prevailing condition between attacks of mucous colitis and especially before an attack, specialists from Plombières declare that there is also a diarrheic form of the disease. This occurs in about one-tenth of the cases. The symptom on which the diagnosis of the disease depends is the presence of glairy muco-membrane in the stools, usually preceded by constipation and accompanied by recurring attacks of pain. The constipation is occasionally absent and the pain also in a certain number of cases. In about eight per cent. of the cases intestinal lithiasis is noted, that is, concretions are found in the stools.

All are agreed that the treatment of mucous colitis must be directed much more to the general nervous condition that to the local symptoms. As soon as the neurotic symptoms begin to disappear the attacks of muco-membranous colitis grow rarer and finally cease entirely. With this idea of the etiology of the affection patients suffering from this condition are advised, country residence, work in the open air and freedom from the strife and anxieties of urban life.

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STREPTOCOCCUS BRONCHITIS IN INFLUENZA.

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THE fact that the various forms of bronchitis cannot be classified according to the bacteria found in the expectoration must be admitted without further discussion. While such a classification is very tempting, clinical evidences do not justify any such attempt.

On the other hand, it is the object of this paper to show that streptococci under certain circumstances produce a clinical picture which seems to me to be more or less characteristic. As far as my own observation goes these circumstances consist either in symbiosis, with the influenza bacillus, or as a secondary infection with streptococci, the influenza bacillus being the primary infecting agent.

I am not prepared to state that these are the only conditions that might produce this clinical picture; for it is conceivable that some other symbiotic combination, or streptococcus infection secondary to some other primary infection besides that of the influenza bacillus, might be followed by the same result; but I had not seen this clinical picture before the first influenza epidemic came upon us, and I have since never seen it except in combination with influenza. The subject is of vast importance, not only on account of the frequent occurrence of the clinical picture, but also in relation to differentiation from tuberculosis of the lungs; not a few of the cases which form the basis of this paper having been sent to me on account of the fact that a diagnosis of phthisis had been made either positively or tentatively. All the cases were observed in private practice. I have not included any hospital cases, for the reason that they could not be kept under observation long enough for my purpose. Only such cases are included as I could follow up for at least one year after the attack had passed over. All the cases occurred during the epidemic of 1896, 1897, 1898, 1899 and 1900. None are included that occurred during the epidemic of 1901. In all there are fifty-four cases which were observed.

The reason for calling this condition streptococcus bronchitis is to be found in the fact that in all the cases this lower form of life predominated, and, in quite a number of cases, notably some of the worst, it was the only bacterium that was found in the expectoration. While it has been impossible to fulfil the requisites of Koch as to the pathogenic nature of the streptococci, the constancy with which they are found, and the relative uniformity of the clinical picture, seems to me to make it impossible to use any other term.

The frequency of the occurrence of streptococci in influenza has impressed itself upon a large number of observers, and before the discovery of Pfeiffer some went so far as to consider the streptococcus pyogenes as the cause of influenza.

The streptococcus was found in all the cases; in twenty-three cases it was associated with staphylococci alone; in three cases streptococci, staphylococci and the diplococcus were found, in only one case streptococci and the influenza bacillus; in twenty-seven cases the streptococcus alone was found.

My only experience, as to the frequency of the influenza bacillus in influenza bronchitis does not correspond with that of Leichtenstern, who was able to find it in the sputum for weeks, but with that of Von Jacksch, who has shown that in the epidemics that have occurred within the last four or five years the influenza bacillus has disappeared after a comparatively short time and has been, as it were, replaced by the streptococcus. According to this, then, I cannot speak of a symbiotic process, but must consider the condition a secondary infection.

The age of the patients was as follows: Six between 10-20 years; 14 between 20-30 years; 16 between 30-40 years; 13 between 40-50 years; 4 between 50-60 years, and 1 between 60-70 years.

Under 10 years of age streptococcus infection of the bronchi with influenza is apt to take upon itself a different clinical picture than in older subjects, as has be shown elsewhere,[1] although it occasionally presents the same symptoms as in adults. Conversely, as will be shown hereafter, pseudopertussis is not rare in adults. That streptococcus bronchitis is rare after fifty years is of interest; but longer observation may show that this is due to the comparatively small number of cases observed and, therefore, too much importance must not be attached to this single observation.

There were 24 males and 30 females; inconclusive as to relative sex ratio on account of the small number of cases observed.

The symptoms were as follows: The onset of the disease always follows an attack of influenza, the primary attack being in the majority of cases of the respiratory type, in the minority, of the nervous or gastro-intestinal form. In other words, any form of influenza may be followed by this peculiar type of bronchitis. The symptoms of influenza disappear before the attack of bronchitis develops. This is the case in the large majority of cases; even when we find the respiratory type of influenza, the characteristic symptoms do not develop without a remission of from several days to a week or ten days. Thus, if a patient should have laryngo-tracheo-bronchitis from influenza this condition will have been very much ameliorated before the streptococcus bronchitis develops. Exceptions to this rule occasionally occur, but they are not common. It goes without saying that if the patient be in the period of convalescence from influenza the symptoms of that period will persist. The attack begins rather suddenly, so that in the normal form, *i.e.*, in the most common form, it will be fully developed in from twenty-four to forty-eight hours. The dominant symptom is the cough; always spasmodic, sometimes

[1] Cough in Influenza Simulating Whooping-cough, Archives of Pediatrics, XVII., 11, 1900.

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simulating whooping-cough, occurring at night as well as in the day-time, and annoying the patient exceedingly. On account of the violence of the cough the patient complains of headache, pain in the lower region of the thorax and sometimes in the abdominal muscles. For the same reason vomiting occurs, and not infrequently the appearance of the face is the same as in whooping-cough; although this is not so common in adults as in children. The attack of coughing is usually followed by expectoration; the sputum varying from a mere serous through the various grades of mucous and purulent. The amount of coughing is disproportianate to the quantity of expectoration, so that in ten of the cases there was an admixture of blood; in six of these there was bloody mucus, in four unmixed pure blood—in two of the latter apparently independent of the effort of coughing.

Physical examination shows evidences of bilateral bronchitis in the medium-sized tubes, in the moist stage. At times there are evidences of bronchitis of the larger tubes, and in some cases these are always present; but the principal localization is in the tubes of middle size. The larynx is not implicated in the majority of cases; when the trachea can be seen it is not uncommon to find its mucous membrane injected. With these symptoms there is present an abnormality in body temperature. I have seen the temperature as low as 96° F. in the morning, and an evening temperature of from 99° to 100° F. or more (registered under the tongue or in the rectum), and making, therefore, an abnormally great diurnal range. The subnormal morning temperature is apt to be overlooked, because we are in the habit of shaking the register of the thermometer to the arrow and not below it. In children the temperature range is greater, showing an evening temperature of 102°-103° F., with subnormal morning temperatures not uncommon. Occasionally adults are found with this same range of temperature, except that the morning temperature is not so apt to go as low. The pulse may be abnormally slow, normal or rapid. If the pulse has been slow in the primary attack, which is a very common occurrence, it takes some time before it becomes normal. In a number of cases the pulse is rapid and, as opposed to the slow pulse, the ratio of pulse to temperature is retained; when the pulse is slow it remains so for the twenty-four hours, being accelerated only a few beats by increase in temperature. In those cases that were examined there was found no leucocytosis nor hypoleucocytosis, except in the severer forms when a moderate leucocytosis was noticed, not exceeding 14,000. The quantity of hemoglobin was always found to be consistent with the condition of general health of the patient. The length of the attack varies, as I believe depending upon the method of treatment employed: in two of the cases that had been treated for pulmonary tuberculosis the cough persisted for over three months; with proper treatment, begun at the proper time, the average duration commonly will not exceed two weeks.

Variations from this normal form are found in two directions; the rudimentary and the excessively developed forms. The rudimentary form is marked by incomplete development, in that the disease runs a shorter course; the temperature is not typical for a great length of time; the spasmodic cough is not thoroughly developed, and expectoration is limited.

The excessively developed form takes upon itself the clinical manifestations of an attack of septicemia, the cryptogenetic septico-pyemia of German authors (Leube); a large number of those cases called influenza-typhoid belong to this class. Again, here there are two forms, the mild and the severe. Of the first class eight were observed. This form is marked by the characteristic onset of the normal form; but either in the beginning or later stages elevations of temperature are noted that are much higher than in the normal form (103°-105° F.); the course of the fever being either intermittent, with subnormal or normal temperature in the morning, or remittent, usually accompanied by a rapid pulse. Sweats are not uncommon, but seem to bear very little relation to the height of the temperature. Chilliness exists, but distinct chills are rare. With high fever the expectoration is reduced and the spasmodic nature of the cough may disappear, at least the number of violent coughing spells is reduced. Depending upon the degree of intensity of the attack, there may or may not be moderate leucocytosis.

In none of the cases did we find the plasmodium malariæ, and in cases that were kept in bed the Widal reaction was always absent. The effect upon the general health is most marked. One of my patients, a physician, had his primary attack of influenza, of the respiratory form, in January, 1898; he recovered from this and continued his work. In April, 1898, he had a second attack which was accompanied and followed by moderate fever, occasional sweats and the characteristic cough. When he came under my treatment the beginning of June, he had lost, in all, forty pounds, he was extremely weak, emaciated and anemic, and all the symptoms still persisted as violently as they had in the beginning. He was sent to me with the diagnosis of phthisis pulmonalis. Examination revealed a weak right apex (slight dulness, diminished respiration, slight increase in vocal fremitus), a general bronchitis of the middle-sized tubes, profuse expectoration with streptococci and no tubercle bacilli. Since the middle of July, 1898, he has been perfectly well. has regained all his flesh, is in full practice, and has recovered completely from his tuberculophobia.

In the cases included in the epidemics referred to I have met with no other evidences of septicemia except those already mentioned. That this form is not uncommon is shown by the fact that out of 54 cases 8 suffered from it. The duration of the attack varies from weeks to months and in the latter case serious general disturbance may be set up.

Of the severe form there are two cases. The

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first, a young man of twenty-three, who had a severe attack of influenza of the respiratory form accompanied by unusually high fever; after recovering from this the ordinary symptoms of streptococcus bronchitis appeared, but in ten days there developed a remittent fever whose evening maximum was 105° F. This continued for six days and then there developed a train of symptoms as follows: Irregular temperature with high maxima (106°-107° F.); great debility; very rapid pulse (110-160); tachypnea (50-60 respirations per minute); profuse sweats; hemorrhages into the skin; amaurosis (due to retinal hemorhages); albuminuria; slight enlargement of the spleen; diarrhea; delirium; and, finally, after three weeks, death. In the lungs there were noticed no evidences of consolidation, but those of a general bronchitis; in addition there was the fact that during the latter ten days of the illness fibrinous casts of the larger bronchial tubes were expectorated. Examination of the expectoration revealed almost pure cultures of streptococci, and the membranes were those of streptococcus croup. No autopsy.

The second case was that of a physician, forty-seven years of age, who had had his primary attack in November, 1897, followed by streptococcus bronchitis, and who came to me on January 3, 1898, in the following condition: General bronchitis , recent endocarditis (mitral insufficiency); tachypnea; diarrhea; irregular fever, no chills; albuminuria; pains in joints; copious sweats; great debility. Streptococci and staphylococci were found in the expectoration; leucocytosis, 18,000. On January 4, 1898, streptococcus serum was injected, followed by very little improvement, due probably to the fact that the patient had been sent home and his physician did not understand the dosage of the serum. On the 17th of January the normal dose was administered and was followed by a marked improvement. It was again repeated on the 22d of January, and the report came that the patient was practically well; no temperature, the cough gone and respiration normal. On February 3, 1898, I received word that the symptoms had returned, and that the patient was suffering severely from dyspnea. Two days afterward I went to see him, and found a recent pericarditis and pulmonary infarct, from which he died in two days. Again no autopsy.

These two cases, presenting as they do the clinical pictures of septico-pyemia of bronchial origin, are the only ones I have seen in private practice. In hospital practice they are more common. They are representative of that which can be done by the streptococcus after influenza; but, under all circumstances, mild as well as severe forms must be looked upon as a septicemia, or septico-pyemia, the origin of the infection being found in the bronchial tubes. It may be proper to state that in the present epidemics we have had many secondary localizations of the streptococcus; in the intestinal canal, in the joints, in the kidneys, especially in connection with streptococcus bronchitis.

The complications that were observed were not many. Pneumonias are not so common with us as they are in other parts of the country, so that there were but three cases of pneumonia, in two of which the expectoration contained diplococci, streptococci and staphylococci; and in the third these bacteria plus the Friedländer pneumococci. In only one case could I satisfy myself that tuberculosis was either a complication or a sequela. This patient had an attack of streptococcus bronchitis in the winter of 1898, which was followed by the appearance of tubercle bacilli after two months. As a result of outdoor treatment she was restored to her normal condition—evidences of a slight infiltration in the left apex, and a compensated mitral insufficiency. In the winter of 1899 she had another attack of influenza, followed by streptococcus bronchitis, but no tuberculosis.

In patients whose cardiac condition was so evenly balanced that myocardial insufficiency could easily be produced, this developed, unless especial preventive measures were taken.

In the protracted cases, the differential diagnosis must lie between this secondary infection and that of tuberculosis of the lungs. It has been stated, I believe a little too rashly, that any patient who has for any great length of time subnormal temperature in the morning with slight increase in the evening, must be looked upon as suffering from phthisis pulmonalis. As a matter of fact, among all the cases observed—and it is for this reason that I have reserved only those cases which have been under observation for at least one year after the attack has run its course—I found only three cases that had tuberculosis, one already having been mentioned. In the other two cases tuberculosis developed, in the one, two years after the attack, and therefore, probably not to be looked upon as a sequela; and, in the other case, eighteen months after the primary attack.

The combination of streptococcus bronchitis with a weak apex of the lung is not an uncommon one and calls for great caution in differential diagnosis. On the other hand, it should be remembered that it is rare to find any human being with both apices alike; and, even if we were to call all those patients who had weak apices tuberculous, or as having latent tuberculosis, we would have to include a large number of human beings who never have shown or will show any other evidences of tuberculosis. Of the cases reported as becoming tuberculous none had hemoptysis nor bloody expectoration. On the other hand, those patients who had tuberculosis did not have hemoptysis.

The lines of differentiation must be drawn as to the general symptoms, the local symptoms, and, finally, the expectoration. While tuberculosis does develop after influenza, yet, if we find a combination of general symptoms with local symptoms, as I have attempted to describe them, there can be but very little difficulty in differentiation in the majority of instances. The objective signs on the part of the chest are those

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of a general bronchitis, and not of a localization in one place or in another. If to these be added the fact that expectoration is profuse, and that repeated examinations fail to reveal tubercle bacilli, but always some other form of lower life, there ought not to be any hesitation in ascribing the proper cause to the symptoms.

It is possible that together with the signs on the part of the chest, as they have been described, there may be associated at the same time a tuberculosis; but under these circumstances the examination of the expectoration will always reveal the presence of the tubercle bacillus.

The treatment which I have pursued in these cases is as follows: In an attack of respiratory influenza I have made it a point to give quinine, my experience agreeing with that of some of the French observers that quinine has the peculiar property of preventing secondary infections. When streptococcus bronchitis develops I have used a remedy which I owe to my friend, Professor Glasgow of St. Louis, the benzoate of soda. This is to be given in large doses, one gram every two to four hours, always every two hours in the beginning. When the cough becomes too annoying, antipyrin, or codeine must be given; the codeine especially to prevent the dilatation that occurs so easily in hearts not perfectly strong. When the expectoration is too profuse, atropine or belladonna may be used to great advantage. In the severer forms, the unguentum Credé has been very serviceable; this combined with injections of antistreptococcic serum in the severest forms has in several instances given me good results. A change of climate seems to be of no benefit; indeed, some of the worst cases I have seen have come to me from health resorts.

Under all circumstances, we must not lose sight of the fact that we are dealing, first, with a local infection, and, secondly, with a general infection. The concept of a septicemia, acute or chronic, as the case may be, is the one that must guide us in the therapy to be employed.

FOURTH-OF-JULY TETANUS.[1]

BY H. GIDEON WELLS, M.D.,
OF CHICAGO, ILL.

IN the twenty days from June 25 to July 14, 1900, there were reported to the coroner of Cook County twenty-nine deaths due to tetanus. During a similar period in 1899 there were seventeen deaths from the same cause. Of the twenty-nine cases during the last epidemic all but two are to be attributed to wounds from explosives used in demonstrating that Independence Day had come, or was coming, for the Chicago youth distributes his abundant patriotism over several days or weeks.

The twenty-seven victims were all boys, ranging from ten to seventeen years in age, and with one exception had received injuries from the discharge of blank cartridges. The exception was a wound from a toy cannon. As a general thing the wound was in the hand (24 of 27 cases, one each of the foot, eye and thigh), being received oftenest while the boy was trying to correct some error in the revolving or cocking mechanisms. The injuries were not due to bursting or any intrinsic fault of the weapons, but to the carelessness or inexperience of the users.

The period of incubation varied from five to nine days, and death occurred in from six to eleven days after the wound was received. None of the cases was of long duration, and in at least four it was under twenty-four hours. In other words the infection was of a virulent type, considering that as a rule the prognosis is much better when the period of incubation exceeds nine days, and recovery rare if shorter than this period. How many cases occurred in the city with a favorable outcome I do not know, but having heard of but a single case, despite diligent inquiry it is probable that they were few.

Why should tetanus be such a frequent result of Fourth-of-July wounds? It is of course impossible to tell how many boys were injured at this time, but these twenty-eight cases must represent a very large percentage; certainly a much greater proportion than results from the simple wounds received from other accidents. The fact that twenty-seven of the twenty-eight cases resulted from blank cartridges naturally suggests that tetanus bacilli might be present in the blank cartridges themselves, possibly from the use of dirty straw, etc., in the manufacture of the cardboard used for wadding. In seeking the cause of the epidemic of 1899 this source occurred to me, and I examined bacteriologically some two hundred blank cartridges, representing all the makes on the market. This research was reported in the *Philadelphia Medical Journal*, June 16, 1900. Despite all methods and modifications of technic tetanus bacilli could never be found in either wads or powder. Last year ten wads from each of the five makes in use were examined after the methods followed the preceding year, and the results were again negative. These bacteriological investigations, therefore, eliminate the blank cartridges themselves as the direct source of the infecting bacteria. It will be observed, as corroborating these results, that one of the fatal wounds was from a toy cannon, and also that during the twenty days in which the cases occurred there were two deaths from wounds not due to explosives. One was in a boy who fell from a tree and injured his hand; the other was similarly due to a wound of the hand with entrance of dirt and slivers of wood.

The remaining possible source of the tetanus bacilli, therefore, is the dirt which is on the hands, and which the blank cartridge wad carries in with it. Tetanus is endemic in Chicago, although not frequent; from one to four fatalities are usually reported to the coroner's office each month. These cases are oftenest due to the dreaded nail-

[1] Read before the Chicago Medical Society.

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wound of the foot, although frequently they are from lacerated wounds of the hands or other parts of the body. The bacilli in these cases are unquestionably introduced with the dirt carried in by the wounding object. In order to verify this theory as to the source, specimens of dirt were taken from the street in six different parts of Chicago, and examined. They were exposed to heat, 85° C. for thirty minutes, and then inoculated into guinea pigs and culture media. One of the pigs died after about sixty hours, with typical manifestations of tetanus, and the tetanus bacillus was obtained from cultures made from the site of the inoculation. The cultures made from the same specimen of dirt as caused the tetanus contained an organism identical in morphology and staining with the tetanus bacillus, but on account of the presence of other resistant spored organisms it could not be isolated.

Why should tetanus occur so much oftener after these wounds than after ordinary lacerations? My own ideas cannot be better expressed than by quoting from an editorial in *Medicine* of August, 1900, which, referring to my previous article on tetanus, says: "The blank cartridge in exploding almost invariably wounds the hands; portions of wadding are carried beneath the palmar fascia, and the difficulty of drainage in puncture wounds of the hands and feet is well understood. When the average patriot goes out to celebrate the 4th of July, he usually betakes himself to some vacant lot or the streets of his native town, and after a few hours of energetic celebration his hands are covered with several layers of dirt. An explosion of a blank cartridge carrying the wadding beneath the skin is almost certain to take the tetanus bacillus with it, as street dirt and stable manure are the special habitats of this bacillus. An absence of early cleansing of the wound which is perhaps trifling and does not reach a surgeon, gives ample time and opportunity for this anaërobic germ to develop, with early general infection of the entire system."

Everything about the blank cartridge wound favors multiplication of the tetanus bacilli. It is long and narrow so that air cannot reach them. Aerobic organisms are present to exhaust any oxygen that may have entered. Blood clots and blood-saturated tissues are always present and they also favor the bacilli, for Strick[1] has shown that one one-thousandth the ordinary fatal dose of tetanus bacilli will kill a rabbit if injected into a hematoma.

The root of the evil of course lies in our barbaric method of celebration. That this can be changed is hardly to be hoped, at least in the present day and generation, and legislation for that purpose is not the special province of the physician. But after the boy has mutilated himself then the matter *is* in the hands of the physician, and with our present knowledge of the etiology and treatment of this disease we have the right to enquire if there should be any cases of tetanus from these injuries. The writer of the editorial quoted endeavors to leave a loophole for escape, by suggesting that the wounds are generally so trifling that they are not seen by a surgeon. He evidently considers that any surgeon would appreciate the gravity of the situation and take proper means to prevent the simple wound becoming the source of a fatal complication. Unfortunately this is not so. The boys who died in Chicago last summer *were* seen by physicians. In studying this epidemic a list of questions was sent to the parents of these children and answers received from the majority. Nearly all stated that the wound had been seen by a doctor shortly after it was received.

Leaving out the question of tetanus and considering alone the matter of sepsis, is any physician justified in leaving pasteboard wads shot into a grimy hand, at the bottom of a contused and lacerated puncture-wound? Yet this is the condition that was present in nearly every case of tetanus that followed these wounds. This applies by no means to Chicago alone, for the reports of cases and dispensary statistics from the country at large tell the same story of the finding of wads at the bottom of the wounds by the surgeon who was called in after tetanus had developed. Considering the infrequency with which tetanus follows wounds that are well cleaned and drained, it seems as if some of these fatalities, if not all, would have been prevented by ordinary surgical methods.

Occasionally, however, tetanus results from wounds that have received the best of care, developing sometimes after complete healing has occurred and all danger seems past. These cases are ordinarily not preventable, for tetanus is such a rare complication that few surgeons would consider it necessary to take any specific precautions against it as a routine practice. But knowing the frequency with which blank cartridge wounds cause tetanus, should not tetanus antitoxin be used as a prophylactic in all such cases? Tetanus antitoxin has not been used as a prophylactic in man to any extent, for the reason just given—that tetanus is not an expected complication. As a curative agent it has not given curative results, such as has diphtheria antitoxin, presumably for the reason that it is not administered until the patient is practically in the last agonies, it being understood that the trismus and spasms, which are usually the first indications, do not ordinarily occur until the fifth to the twelfth day of the disease. But as a prophylactic its action is positive, according to the veterinarians who use it extensively. They have many chances to observe its effects in stables where tetanus becomes endemic. In such a stable on the west side there had been for several years from six to eight deaths from tetanus annually. It was decided to give every horse with wounds about the feet a prophylactic dose of antitoxin. During the five years since this plan was adopted about three hundred horses were so treated, and none developed tetanus. One horse only with wounds was not injected during this time and it de-

[1] Centr. f. Bakt., Bd. xxv. s. 386.

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veloped tetanus, the only case occurring during the five years. Many similar series are reported by veterinarians. It is also interesting to note that as a curative agent antitoxin has given no better results in horses than in man, hence it is reasonable to suppose that it would be fully as successful as a prophylactic for man as for the horse. The usual prophylactic dose for a horse is ten cubic centimeters, so half that amount would probably be a great sufficiency for a man, and if we can compare it with diphtheria antitoxin this prophylactic use would be free from danger. As a matter of fact it has been used sufficiently as a prophylactic already to show that its use is quite safe.

To summarize the facts and impressions of this paper it may be stated that: Tetanus is endemic in Chicago, the specific organism being present in the dirt of the streets. Every Fourth of July an epidemic occurs, because these bacilli are carried deeply into wounds before wads from blank cartridges, and are then under favorable conditions for multiplication. Epidemics which always occur in other portions of the country at the same time are presumably due to the same causes. Most of the cases occur in wounds that have been improperly cared for, the wads not having been removed or suitable drainage instituted. Therefore the first indication is to secure thorough surgical cleansing and drainage of the wound, preferably and almost necessarily under an anesthetic. As, however, tetanus sometimes occurs even in well-drained wounds, and considering the frequency with which it follows blank cartridge wounds, it seems to the writer that such cases should receive a prophylactic dose of, say, five cubic centimeters, of tetanus antitoxin, as soon as possible after the wound is first seen. It seems certain that if antitoxin prophylaxis were adopted there would be no further Fourth of July epidemics, and this end justifies the means.

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THE USE OF METHYLENE-BLUE INJECTIONS IN PLEURISY WITH EFFUSION.[1]

BY CHARLES H. LEWIS, M.D.,
OF NEW YORK.

I HAVE been requested by the President to give a résumé of the method which I employ in treating some cases of pleurisy with effusion.

My early experiences with this method were incorporated in a paper on "The Treatment of Serous Effusions" read at the Hospital Graduates' Club, something over a year ago, and published in the *Medical Record,* December 30, 1899.

I regret that I have little especially new to add and but four new cases to append to the series published at that time. This is not, however, extraordinary when I recall that it took me over three years to gather and study the twenty cases reported in the article alluded to. I must also confess to a discontinuation of the practice I had previously indulged in of borrowing from my colleague's wards every case of plural effusion that I could lay my hands on. To lessen the responsibility of letting loose a new therapeutic measure on a long-suffering, medical community, and to purge myself of the charge of rank empiricism, it may not be out of place on this occasion to suggest some of the considerations which led me to employ methylene blue in the treatment of serous effusions.

The rationale of the absorptions of pleural effusions has always possessed an especial interest to me, as it seems it must to every one who sees and follows the course of many of these cases. Why it is that the lymphatic sponge soaks up the fluid in the pleural sac in such an irregular—almost erratic—fashion, uninfluenced frequently by diminished intake and increased output of liquids, is, and always has been, quite incomprehensible to me. It is not an infrequent experience to observe fluid remaining unchanged in a pleural cavity for weeks and months, all of which time the patient is undergoing a rigorous and enervating course of cathartics, diuretics, and diaphoretics, and then note its abrupt recession and comparatively rapid disappearance. In other cases the serum is taken up by the lymphatics promptly and energetically under eliminative, salicylic, iodide, counter-irritative, or no special treatment. The pleural surfaces meet and are firmly and permanently glued together. The patient recovers with thickened and adherent pleural walls. No further encroachment of serum is to be apprehended, and with the exception of a possible subsequent slight contraction, the chest is to all intents and purposes normal. According to Dr. Frank Ferguson, autopsies on 80 per cent. of the cases dying of other than chest disease exhibit more or less general pleural adhesions. Samuel Gee in "Allbutt's System of Medicine" states that "recovery from pleurisy carries the assumption that adhesion has occurred." Osler, in his last book, remarks that "adhesions are probably an invariable result whether the pleurisy is primary or secondary." "Indeed," he adds, "it is rare to examine a body entirely free from them." And again, "they may exist without giving rise to the slightest disturbance in the function of the lungs."

In emptying a pleural cavity of fluid, two methods may be employed. First, aspiration, and, second, absorption through the lymphatic channels. So far as rapidity is concerned, aspiration, as recommended by Bowditch forty years ago, furnishes an ideal method. With modern asepsis and average care the operation is entirely free from danger. The objection is the often rapid re-appearance of the fluid, and the consequent necessity of a frequent repetition of the operation. On the other hand, in my experience, spontaneous absorption by the lymphatic stream, when effective, leads to permanent results.

The therapeutic resources ordinarily recom-

[1] Read before the Section on Medicine, of the New York Academy of Medicine, Feb. 19, 1901.

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mended for facilitating absorption are uncertain in their action, and debilitating in their effects. Diruetics and strong counterirritants have had their day; Osler "damns with faint praise" weak counterirritants by saying "in some cases they appear useful." Hydragogue cathartics drain fluid from the vessels, but carry no assurance that the latter will recoup themselves from the reservoir in the pleura; diaphoretics possess all the disadvantages of hydragogue cathartics with none of their advantages; iodides and salicylates serve as forlorn hopes; antiphlogistics are antiquated and unscientific; Nothnagel pronounces "diuretics, cathartics and diaphoretics not only useless but harmful."

In studying the course of pleural effusions it occurred to me that if we could introduce some substance into the pleural cavity which would secure a more or less general deposit of fibrin on the pleural surfaces, and then aspirate, adhesion of the walls of the sac would result in sufficient quantity to prevent a return of the effusion; if the substance employed were antiseptic—since all pleural inflammatory effusions are pretty generally conceded to be due to microorganisms—an additional argument for its use could be adduced. Then, again, it might stimulate the absorbents.

Such were the considerations which induced me some four years ago to experiment with iodine, potassium permanganate, and the aniline dyes, fuchsin and methylene blue. After many observations, which it is unnecessary to detail here, but which are described at some length in the article already alluded to, I selected the blue as being easily the most likely to secure the contemplated results. Methylene blue is antiseptic, anodyne, has diuretic properties, is easily detected in the urine, and imparts a color not found in any bodily secretion, physiological or pathological. Delafield and Prudden have demonstrated that pleural adhesions can be evolved by irritant injection into the pleural sac after the preliminary stages of congestion and fibrinous deposit. They have also established the fact that the character of the exudation varies directly with the strength of the irritant. In order to safely throw a feebly irritating solution into a serous effusion so that the former may come in contact with the entire surface which the serum bathes, certain conditions must be fulfilled: (1) The irritating material must form an easy and permanent solution in the vehicle employed and in the serum; (2) the reaction and specific gravity of both fluids must correspond as closely as possible; (3) the material injected must be antiseptic or easily rendered aseptic, and (4) the volume of the fluid in the sac must remain unchanged.

After a not altogether satisfactory test of a saline solution approximating to the specific gravity of the serum as a vehicle to carry in the methylene blue, the idea occurred to me, to use the serum itself as a solvent, and, after making a solution of it and the blue, to return both into the cavity. By such a procedure every essential would be fulfilled. As I had already determined, serum readily dissolves methylene blue in about 1 to 50 parts. The reaction and specific gravity would obviously agree, being a part of the whole. If no infection occurred during the trip its condition as to sterility would be as good as before—which is not always the best—and, finally, the amount borrowed would be paid in full so that no change in volume would result. It was expected that the respiratory movements and the operation of injection would produce sufficient agitation in the chest cavity to make a uniform mixture of the two serums. This expectation was fully realized as subsequent hypodermic taps at different points over the affected chest gave a fluid of uniform color and appearance. This easy and uniform miscibility of a solution of methylene blue and serum has been utilized by Niclot in estimating the total amount of a pleural effusion by the color of the sample withdrawn after injection of the dye. In *La Semaine Médicale* of November 28, 1900, he cites three cases in which the amount of fluid was accurately determined by such colorimetric observations.

The method which I formerly employed for withdrawing the fluid, making the solution, and re-injecting into the serous cavity, is practised by means of the large aspirating-syringe with a needle of medium caliber and fitted with asbestos piston and washers. A rubber tube is attached to the outflow tube of the syringe and extends into a glass graduate of a capacity of 100 c.c. or more, which holds the methylene blue. A glass rod for mixing the blue and serum is inserted into the vessel alongside the rubber tube and the entrance is then plugged with sterilized cotton. The whole outfit before use is easily sterilized by heat. If the sterilization is thorough, infection of the serum on the round trip from sac to vessel and return is impossible. Ordinary care renders the needle clean. The methylene blue being put into the graduate before sterilization is itself sterilized. It is, however, antiseptic, and I have never been able to get any growth from it in culture media even when coming from sources which would contaminate non-antiseptic materials. I have recently varied this method by applying the principle of the Potain aspirator, carrying the tube which withdraws the serum to the bottom of the vessel. The short tube through which the air is exhausted remains as usual. Any aspirating-syringe will serve. The serum can then be drawn into the graduate by the ordinary method, readily mixed by agitation with the blue which has previously been placed therein, and then forced back into the pleura by reversing the action of the aspirating-syringe. The process can be repeated a sufficient number of times to take up all, or nearly all the blue. This method does away with sterilizing the syringe, and otherwise preserves it (for the action of the blue is rather destructive to the valves); it also shortens the course over which

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the serum travels and lessens proportionately the liability to possible infection.

I have employed this method of treatment in 24 cases of pleural effusion including one suppurative case. In this case fifteen grains of methylene blue was injected at Columbus Hospital, May 11, 1900, by the same method that I have described for the serous cases. The dye was found in the urine four hours later, and was excreted sluggishly but continuously until the pleural cavity was emptied by free incision May 22d, after which date the greenish tint gradually faded from the urine. The fluid evacuated measured about three quarts of bluish-green pus of rather offensive odor. Subsequent adhesions formed rapidly, and the patient left the hospital June 12, 1900—thirty-two days after injection and twenty-one days after operation with a small discharging sinus which healed uninterruptedly under dispensary treatment. Castaigne in *La Presse Médicale,* March, 28, 1900, concludes, after considerable experimental work in this direction, that there is no absorption of soluble substances in a pleural suppurative effusion due to tuberculous or pneumococcus infection. He readily admits, however, this absorptive power to the pleura in empyemata of streptoccoccus etiology and even in a hemorrhagic effusion of cancerous origin.

Of the 23 serofibrinous cases treated by this method, short histories of twenty appear in my original article. The course of the three additional cases deviated in no essential particular from the first series. One, however, accompanied by well-marked signs of pulmonary tuberculosis, and presenting abundant tubercle bacilli in the sputum, exhibited an unusually tardy elimination of the blue in the urine, namely, fourteen days. The pulmonary complications of this patient delayed his convalescence and he remained twenty-six days in the hospital after the injection. After a month's subsequent treatment in the dispensary he still had his cough and a mild fever, but his general condition was fair and with the exception of some dulness and a few crackling râles no evidence of his plural trouble presented. The average duration of treatment for the 23 serofibrinous cases was a little under fourteen days (13.8 days).

In this list, besides the injections of methylene blue as described, some cases received salicylates, some diuretics or cathartics, and others no internal medication at all. So far as I could determine, drugs used internally had little or no influence on the rapidity of absorption. "Wolff bottles," as recommended by Dr. Walter B. James for facilitating lung distention, were employed in all cases, and with good effect. The shortest interval between the injection of methylene blue and its appearance in the urine was one hour.

Raymond and Tourlet (*La Presse Médicale,* March 14, 1900), after injecting 10 cg. (1½ grains) of methylene blue into a pleural serous effusion found the blue in the urine drawn by catheter one-half hour later. In four of my cases paracentesis was performed a few days after injection without cutting short the period of convalescence. No considerable re-accumulation of fluid could be made out in these cases, but absorption of the rest of the effusion—for it is impossible, even if advisable, to completely empty the chest cavity—dragged along at a snail's pace, so that the time from injection to discharge from the hospital was something more than two days over the non-aspirated cases.

The quantity of methylene blue employed was from 5 to 15 grains. Most of the cases received over 10 grains. The amount of serum, by the first method, was 60 to 100 c.c. By the second, no estimate was made, but sufficient employed to carry in the dye. In this connection it is interesting to note, by way of corroboration, that Renon (in the *Bull. de l'Acad. Méd. de Paris,* July 31, 1900), reports two cases where the blue was introduced into the pleural cavity in conditions of serofibrinous exudation. In one case, the elimination, by way of the urine, lasted *nine* days; and in the other, *three* days; and he adds, "the rate of elimination corresponded with the rate of absorption of the fluid."

47 West Fifty-eighth Street.

THE APPEARANCE OF THE SOFT PALATE A PATHOGNOMONIC SYMPTOM OF EPIDEMIC INFLUENZA.

BY LOUIS KOLIPINSKI, M.D.,
OF WASHINGTON, D. C.

FROM a habit of examining the fauces in all cases of epidemic influenza that presented themselves and from the same practice in all instances in which the disease was suspected as the primary cause of sickness there has grown gradually the conviction in the writer's mind that influenza can be diagnosed with ease and certainty by observing the peculiarity of appearance of the *velum palati.* This was found to be constant where the general symptoms were sufficient to make a diagnosis certain. It was further noted that it preceded the initial chill and fever by some days and that it still persisted when convalescence was apparently ended.

Of greater utility and satisfaction, perhaps, was that its presence made clear the origin of those numerous anomalous types one sees during an epidemic of grip in which its recognition is neglected or the causal factor is suspected after such an irregular case has run its more or less protracted course. Thus, acute eczema, bilious vomiting, morning vertigo in women, irritative laryngeal cough, neuralgia of the face and chest, acute pelvic pain in women are some of these irregular forms.

The phenomenon in question is seen upon the mucous membrane of the soft palate in the form of small convex projections of a pearly whiteness or transparency. Their size is that of a grain of sand. In number they are either few

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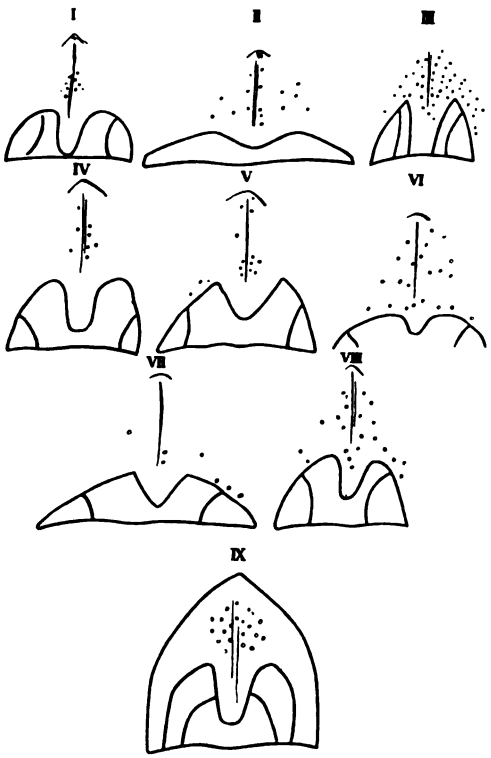
and confined to certain parts of the velum or its processes, or else abundantly scattered over the whole of its anterior surface. The certain parts exquisitely displaying them in their circumscribed form are, (1) the base of the uvula; (2) the median raphe; (3) the lateral borders of the same; (4) the anterior surface of the palatoglossal fold about the upper border of the tonsil. A spatula rubbed over them give a hard, rough sensation.

They are not distinguishable in obscure light, as in cloudy weather, nor discernible in any but a very bright artificial illumination and are best seen in sunlight, direct or diffused. They must not be confounded with minute drops of mucus or saliva often present. Sometimes they are entirely obscured by a tenacious secretion covering the surface. The use of a handkerchief or the handle of a spoon to remove this gives the peculiar rough feel and reveals the little projections on the mucous membrane. It it assumed that their composition is that of congested or inflamed palatal mucous glands. I have had no opportunity to study their pathologic histology.



Diagrams of Soft Palate in Epidemic Influenza.

The color of the field to these bodies is flesh red in the otherwise normal individual; angry red from the consumption of alcohol or smoking tobacco; waxy white in the tuberculous, and in those subject to other wasting diseases. Sometimes punctate hemorrhages complicate the picture, and in a single instance the color of the little enlargements was bright red.

Their existence is devoid of any subjective sensation. I have never observed a patient conscious of their presence, however morbidly alert he may have been in discovering and enlarging upon his feelings in sickness.

The accompanying diagrams were sketches from patients: (I.) A boy of seven; acute laryngitis; second day of influenza. (II.) Female aged forty; uvula and tonsils removed some years ago; seventh day; (III.) Male of sixty-five; chronic alcoholism; surface deep red; fourth day; (IV.) Female, twenty-four; anemic, tenth day. (V.) Male, twenty-six, sixth day. (VI.) Female, thirty-three; third day. (VII.) Female, sixty-six, second day. (VIII.) Child, four years, third day. (IX.) Female, twenty, first day.

MEDICAL PROGRESS.

Membranous Enteritis.—In his studies on membranous enteritis, H. WESTPHALEN (*Berl. klin. Woch.*, Apr. 22, 1901) concludes as follows: (1) that the disease cannot well be subdivided into a membranous enteritis depending on a catarrh and a mucous colitis, an intestinal neurosis; (2) that the formation of the so-called enteric membranes depends on a purely nervous hypersecretion of mucous; (3) that if there is an uncomplicated neurosis large masses of amorphous mucus are passed; (4) that if spastic intestinal conditions are added, the mucus is compressed in the form of stringy masses; (5) and lastly, that if the masses are voided with severe pains, one is justified in assuming an additional sensory neurosis.

Morphine and Chloroform.—LAUWERS (*Jour. de. Chir.*, 1901, No. 3) states that after considerable observation of actual and threatened fatalities after chloroform anesthesia among patients to whom morphine was given hypodermatically directly after the operation, he has concluded that the bad results are more often due to the morphine depression than to the chloroform depression. He therefore believes that as a rule when chloroform has been the anesthetic, morphine should not be administered until several hours have elapsed. In the resuscitation of collapsed patients after chloroform narcosis he has found that irritation of the mucosa of the trachea is a most potent and certain excitant of the respiratory reflex. His attention to it was called by the violence of the response when during tracheotomy the mucosa is stimulated with gauze for removing false membranes or mucous collections and also in the physiological laboratory by experiments on animals, when revival of the breathing was obtained even after all life was evidently gone.

Freezing Point of Blood.—The great diagnostic value of the freezing point of the blood is justly emphasized by A. KORANYI (*Berl. klin. Woch.*, Apr. 22, 1901) and the normal limits are given by him as being 0.56-0.58° C. Though some surgeons have reported absence of renal in-

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sufficiency in cases where 0.60° C. was found, it must be remembered that both carbon dioxides and acetone in the blood will alter the freezing-point. It is therefore necessary to treat the blood freely with oxygen before freezing it or at least to shake it for some time. Another great source of error lies in the use of improper apparatus.

Uterine Congestion and Sclerosis.—L. G. RICHELOT and J. BAROZZI (*La Gynecologie,* 1901, No. 1) emphasize the fact that in the treatment of these two conditions respect must always be had for the age of the patient and the degree of the conditions. With the young virgin rest in bed is the true basis of the management, which should be begun as soon as the diagnosis is made and continued until the symptoms have subsided. After the real congestion is absolutely cured, rest in bed during the entire menstrual period with both the preceding and following twenty-four hours is the best prophylactic measure against a recurrence of the trouble. Between the monthly flows attention should be intelligently given to hygienic living and the avoidance of excessive exercise like bicycling, horseback-riding, dancing, etc. In the severe cases the uterine tonics may be used, especially, hydrastis canadensis, viburnum prunifolium and piscidia erythrina. Quinine sulphate is always to be thought of as a most serviceable drug. If the patient be an older woman. then in addition to the above general principles we use the simple or medicated douche in large quantity several times daily and as hot as can be borne; hot rectal irrigation; vaginal and rectal suppositories directed against pain and congestion; vaginal glycerine tampons combined with ichthyol and other drugs. As a later resort comes the various intra-uterine applications, especially the milder caustics nitrate of silver and sulphate of copper, or later in the bad cases chloride of zinc under suitable precautions. Hydrotherapy, cold water in a few selected robust cases, hot water in the vast majority of patients, must never be forgotten. In the wealthy resort to some of the baths may be had in obstinate cases. A rational alimentary hygiene must never be forgotten. Simple highly nutritious diet and the total avoidance of all constipation must be the rule. In general alcoholic drinks, stimulating tonics, all ferruginous medication tend to increase the congestion and are usually contraindicated. Repeated congestions often go on to sclerosis of the uterus and then we have to consider its treatment. Divulsion of the cervix with tents is an excellent means of producing softening of the entire uterus, especially the cervix and is in these early cases better than forcible dilatation. Next in order comes a careful systematic curetting as a last resort if all other means, when repeated have failed, then hysterectomy *per vaginam* is to be considered.

Treatment of Pertussis.—Excellent results have been obtained in the treatment of whooping-cough by G. SPIESS (*Münch. med. Woch.,* Apr. 9, 1901) by the use of orthoform locally applied to the larynx and glottis by means of a powder insufflator. The slight solubility of orthoform will allow its anesthetic properties to manifest themselves for hours so that a reflex contraction of the epiglottis will become impossible while after-effects can be seen only in those few patients who manifest an idiosyncrasy.

Bacteriological and Clinical Phenomena of the Puerperium.—G. VOGEL (*Zeitschr. f. Geburtsh. u. Gynäk.,* B. 44, H. 3, 1901) draws the following conclusions: (1) The formation of a copious secretion is a condition which soon disappears without harm to the woman, provided it is cared for with the proper precautions; (2) in the great majority of cases when there is a rise of temperature during the puerperium pus can be found in the uterus; (3) in women who have a fever and a positive bacteriological diagnosis there is almost always some clinical abnormality in the parturient canal; (4) in such cases there is usually some source of retention of the discharge, as a rule consisting of a dextro- or sinistro-version easily curable; (5) when such retention is suspected contraction of the uterus must be brought about and always free evacuation of the pus and cleansing of the cavity with 20 per cent. carbolic acid in alcohol; (6) lacerations of the cervix encourage the advance of pus into the uterus and with that the fever and other symptoms; (7) small wounds of the genital tract favor the development of pus, therefore all such must be most carefully cleansed; (8) during the early puerperium in normal cases as a rule the uterus is absolutely free of pus, but nevertheless pus and even streptococci may be present without giving an evidence clinically of their existence; (9) during the late puerperium the uterine contents are still more apt to contain pus and still more rarely does such pus cause even the slightest disturbance; (10) streptococci are very rarely found in fact in women entirely free of fever.

Blood Transfusion.—A. BIER (*Münch. med. Woch.,* Apr. 9, 1901) has employed transfusions of lamb's blood in various forms of cachexia and tuberculosis with marked improvement. An intense reaction is caused throughout the entire body which is most marked in the diseased organ where the hyperemic will bring on healthy, reactive changes. Small quantities of the blood, which must first be defibrinated are injected into a vein in a manner similar to that used for cinnamic acid in tuberculosis.

Errors in Diagnosis of Appendicitis.—G. E. BREWER (*Annals of Surgery,* May, 1901) cites cases in which erroneous diagnoses of appendicitis were made clinically and the true condition ascertained later by operation or other means. Among the instructive cases epitomized are two of renal calculi which closely simulated the symptoms and signs either of appendicitis or biliary calculi. They were free from the classical symptoms of hematuria, vesical irritation and lumbar tenderness and were not palpable in the kidney when exposed by lumbar incision. Two cases of right ovarian and parovarian cysts strangulated by a

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twist in the pedicle very closely simulated the appendical inflammation. In one patient a torsion in a hydrosalpinx was the true lesion. In another cholecystitis with obscure signs very closely simulated the appendicitis. One patient showed that a negative palpation of the pancreas through the stomach and the substance of the great omentum is by no means a proof that an acute suppurative pancreatitis does not exist, and that the existence of small areas of fat necrosis over the omentum and other viscera is a very good indication of the presence of such a lesion and that the general sepsis caused by the lesion may very deceptively imitate the symptoms produced by a general infection of the great peritoneal sac. A rapidly growing sarcoma of the small intestine may simulate an acute appendicitis, especially when it does not produce preliminary obstruction or other symptoms. Severe general sepsis although from foci entirely removed from the abdominal cavity, may produce symptoms very remarkably like those due to a local or general peritonitis.

Glutoid Capsules as an Aid to Diagnosis.—In the diagnosis of diseases of the intestines and also of the pancreas, capsules of iodide of potassium, where the gelatine had been treated with formalin have been recommended, since, while insoluble in gastric juice, they readily disintegrate in the small intestines. F. FROMME (*Münch. med. Woch.*, April 9, 1901) recapitulates as follows concerning their utility: (1) if the reaction occurs within the normal time (3½-5 hours) it proves a good gastric motility and normal pancreatic function; (2) if the reaction takes place later than 7-8 hours it is not conclusive, as it may signify pancreatic disturbance, yet the capsules may be held back in the stomach from various causes.

Streptococcus in Gynecology.—The most frequent puerperal infection is that of the streptococcus, which extends through the uterine walls particularly at the site of the placenta, and often sets up an anterior, posterior, or lateral parametritis. Generally these infections are limited to the pelvic lymphatics, but they may cause abscesses as high as the umbilicus anteriorly, the mediastinum posteriorly, or on the venter of either ilium. GUY L. HUNNER (*Am. Gyn. and Obstet. Journ.*, May, 1901) considers that the probable diagnosis should be made from the history alone, palpation being of next importance. The dense cellulitic mass usually situated in the subperitoneal tissues, and localized on one side or in one region, he designates as the characteristic postpuerperal streptococcus lesion.

Artificial Respiration.—The abdominal method of artificial respiration introduced by T. E. SATTERTHWAITE is described (*Post-Graduate*, May, 1901) by him as follows: To get rid of the water in the body, place on face with outstretched arms, and head lower than hips, wedge mouth open with a bit of wood or knotted handkerchief. Kneel at right of patient, and while depressing patient's tongue with right hand, push bowels and other abdominal viscera against diaphragm with left hand. Keep up pressure until water ceases to flow from mouth, or until artificial respiration can be made effective. Then turn body on back, in horizontal position, arms at sides, raise pit of stomach by a bundle of clothing under back, and with right finger on back of tongue press the diaphragm upward with left hand. Then cease pressure and the diaphragm will fall and the lungs inflate with air. Begin with three or four movements in a minute, and increase to ten or fifteen. If there are two operators, Sylvester's plan may be employed in addition. When respiration is re-established, remove to a warm place, apply dry heat to the body, and cautiously give hot broth, beef tea, or alcoholics, at first in minute quantities.

Relief of Nephroptosis.—Various methods have been devised by which it was supposed that a movable kidney could be held in place by the application of an abdominal binder. G. M. EDEBOHLS (*Med. Rec.*, May 4, 1901) shows how difficult it is for one to prevent the descent of a movable kidney even by the clever application of the hand, and hence mechanical support could hardly be expected to be efficacious unless an unbearable pressure was exerted. Furthermore, manipulations or pressure upon the kidneys have been shown to materially change the character of the urine. Kidney pads, therefore, should never be used. Since simple bandages act by supporting the entire contents of the abdomen the degree of benefit will depend largely upon the amount of general enteroptosis which accompanies the nephroptosis. In all cases in which relief of the symptoms cannot be obtained from the simple bandage or corset, nephropexy is indicated.

Abdominal Pain in Typhoid.—Very little attention is paid by authors to this very frequent and distressing symptom. F. MCCRAE has analyzed 500 cases appearing in the Johns Hopkins Hospital (*N. Y. Med. Jour.*, May 4, 1901) and finds that pain is present at some time during the illness in at least two-fifths of the cases. Pain occurred with perforation or hemorrhage in about five per cent. of all cases, and it was most constantly present with perforation, when it was usually sudden in onset, sharp in character and paroxysmal. The pain of perforation was most closely simulated by the pain of hemorrhage, of phlebitis or of unknown origin. Among the other frequent causes of abdominal pain he mentions pleurisy, pneumonia, distended bladder, solid food, vomiting or constipation, appendicitis, peritonitis, cholecystitis or liver abscess. At the onset of the disease the pain may be so severe as to lead to a mistaken diagnosis and yet no adequate cause for the symptom be made out. In over twelve per cent. of patients complaining of pain no discoverable cause was detected and of these there was a considerable number who presented many of the features of perforation, such

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as local abdominal symptoms and a moderate leucocytosis. Several of these when operated upon showed nothing but a slight peritoneal irritation at the site of a Peyer's patch.

Suprarenal Extract in Cardiac Disease.—The dried and powdered gland loosely packed in a gelatin capsule is thoroughly chewed and swallowed without water. About three grains is an ordinary dose and S. FLOERSHEIM (*N. Y. Med. Jour.*, May 4, 1901) finds that when such a dose is properly administered, a decided effect upon the heart's action can be noted within five minutes, at which time the maximum effect is obtained. The action is continued from five minutes to three hours and the influence seems to be to increase the force of the heart beat and improve the tone of the vessels. There seems to be no contra-indications and poisonous effects are unknown.

Traumatic Rupture of Cardiac Valves.—The mooted question, whether rupture of a heart-valve may result from external violence, is answered in the affirmative by F. STRASSMANN (*Zeitschrft. f. klin. Med.*, Vol. 42, Nos. 5 and 6). This patient sustained a contusion of the chest and in the course of six months developed all the symptoms of disturbed circulation which ultimately led to his death. At autopsy healed fractures of four ribs, dilatation of the heart, pericarditis, partial rupture of the aorta and rupture of one of the aortic valves, together with the usual signs of decomposition were found.

Transudates and Exudates.—The usual rules that exudates have a specific gravity above 1018, albumin more than 5 per cent. and an acid reaction, while transudates are lighter than 1018, contain less than 5 per cent albumin and are alkaline, often do not suffice for a differential diagnosis between both. A. WOLFF (*Zeitschrift f. klin. Med.*, Vol. 42, Nos. 5 and 6) recommends a study of the morphological elements. He recognizes two groups: (1) where there are polynuclear leucocytes with a few erythrocytes; (2) where lymphocytes and erythrocytes form the main elements. The former corresponds to the exudates, the latter to the transudates. In tuberculosis the elements found generally belong to the second group; this, together with the usual sterility of the fluid, stamps it as a transudate caused probably by irritation of the pleura by the toxins of the tubercle bacillus. If a cavity breaks into the pleura, the transudate morphologically becomes an exudate.

THERAPEUTIC HINTS.

Middle-Ear Diseases.—If the Eustachian tube is closed by inflammatory products, inflation should be performed, or, if this fails to open the tube, the Eustachian catheter may be passed. The nasal cavity should always be cleaned before the inflation, or septic material may be carried up the tube. After inflation, the pharyngeal end of the tube should be treated with astringents. In acute otitis media, put the patient to bed, give saline cathartic, and apply dry heat to relieve the pain. Avoid moist heat, oils, and aqueous solutions. Leeches may be applied in front of the tragus. If the pain is very severe, coal-tar products may be given, but avoid opium as it may mask the symptoms of a mastoid involvement. If these measures do not relieve early, open the drum; if it perforates make the opening large enough for free drainage. Pay special attention to the condition of the nose and pharynx. The chronic hypertrophic or hyperplastic inflammations causing dull hearing and subjective noises are most frequently caused by adenoids, enlarged pharyngeal tonsils, hypertrophied turbinate, or deflected septum. If still in the hypertrophic stage and there is fluid in the middle ear, inflate to remove it by the Eustachian tube; or, if this fails, do paracentesis and then inflate with absorbing and stimulating vapors, making mild massage of the drum. If the middle ear is in a hyperplastic condition with atrophy, it is best to remove the malleus and incus and mobilize the stapes. Remember that middle-ear disease of one side tends to the impairment of hearing on the opposite side.—E. V. RIKER (*The Physician and Surgeon*, April, 1901).

Camphorated Oil.—Camphor is an antispasmodic and a powerful cardiac tonic, capable of restoring the vigor of the heart-muscle when it is weakened by pyrexia. It is not toxic, but one gram (gr. xv) a day is full dosage. The only contraindication is pregnancy, as abortion has resulted from large doses. Given by injection, camphorated oil acts rapidly, is painless, and does not produce nervous symptoms like caffeine. In tuberculosis it modifies the bronchial secretions and stimulates phagocytosis. The mean dose for an adult should be 2 to 8 grams (ʒss-ij) a day of 10 per cent. oil.—E. VAILLANT, *Journ. de Méd. de Paris*, Apr. 28, 1901.

Salol in Diabetes.—Of eight cases treated by M. TESMACHER, three received no benefit. The other five had a fairly intense diabetes, with persistence of 0.6-1.5 per cent. of sugar in the urine in spite of antidiabetic diet. After about five days administration of salol gm. 1.3 (gr. xx) three times a day, the urine contained only traces of sugar. When the salol was stopped, the sugar gradually reappeared.—*La Presse Méd.*, Apr. 24, 1901.

Eczema.—Ehrmann employs:

℞ Petrosulfol .....gm. 6.0 (ʒiss).
Caseine ointment..gm. 20.0-40.0 (ʒv-x).

or

℞ Petrosulfol .....gm. 6.0 (ʒiss).
Lanolin
Vaselin aa..... 20.0 (ʒv).
Zinc. oxid..... 10.0 (ʒiisss).

Journ. de Med. de Paris, Apr. 28, 1901.

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A WEEKLY JOURNAL

OF MEDICAL SCIENCE.

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SATURDAY, JUNE 1, 1901.

THE ANTEPARTUM BATH.

THE events of labor and the puerperium are essentially physiological and should therefore normally be exempt from pathological manifestations, yet the proportion of cases in which the postpartum temperature exceeds the bounds of health is very considerable. Statistics of European maternities give as the lowest figure 17 per cent. of postpartum temperatures while many authorities consider a rise to 101-101.8° F. normal for the child bed. Modern methods, particularly the universal adoption of aseptic and antiseptic measures have greatly reduced the proportion of puerperal casualties but the percentage of postpartum fevers is still so great as to indicate that even our best efforts are open to criticism and that we are still leaving loop holes for the entrance of disturbing factors.

By most writers these faulty results are attributed either to the introduction of septic matter into the genitalia in the process of internal examination and irrigation or to autoinfection; and to reduce these risks the use of gloves, the restriction of vaginal examinations, careful disinfection of the vaginal tract during the labor and also the total omission of such cleansing efforts have all been recommended, while it has also been shown that the vagina itself has definite bactericidal self-purifying powers. But in spite of precautions there is still a wide gap to be bridged before the ideal can be approached and several writers have lately been considering the antepartum bath as a possible fallacy.

The ordinary tub bath is open to a number of objections since the patient at the end of the scrubbing is virtually immersed in a dilution of her own dirt. That which is removed from the more contaminated regions such as the feet, hands and anus, particularly the latter if, as is the case, the routine enema immediately precedes the bath, is spread in a thin film over the whole body while if any ulcers or discharging wounds are present a distribution of infectious organisms over the entire surface inevitably takes place. There are probably not many institutions where an adequate disinfection of the tub before use is carried out so that each bather is likely to receive contributions from the person of her predecessor and altogether the procedure is far from being a satisfactory cleaning process. Furthermore it is more than probable that in the movements of entering and leaving the tub, respiration, etc., some of this infected water enters the vagina and several authors have experimentally shown the possibility of this occurrence. Sticher (*Centralblatt f. Gynäkologie,* March 2, 1901) added to the water pure cultures of the bacillus prodigiosus, a germ not occurring in the normal vaginal secretion, and was able to recover it after the bath from the vaginas of both primiparæ and multiparæ while Stroganoff (*Centralblatt f. Gynäkologie,* Feb. 9, 1901) obtained similar positive results by using a chemical reaction (starch and iodide of potassium). This observer advises the complete abolition of the tub and the substitution for it of some modification of the Russian bath whereby the patient, seated or standing, is washed from above downward under a running stream, and does not remain in contact with the polluted water, and emphasizes the fact that by this means infection of the nipples which have been shown to be frequent portals of entry for germs is avoided.

As practical proof that this is not merely a theoretical consideration this author gives the statistics of the Imperial Maternity Asylum of

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St. Petersburg where during the eighteen months in which this form of ablution has supplanted the tub and after exclusion of all other factors that might influence the results a drop of 7.4 per cent. in puerperal disease was noted.

A NEW GASTRIC FERMENT.

Over forty years ago Marcet suggested that the stomach might possibly in addition to its proteolytic ferments possess the faculty of splitting off fatty acids from neutral fats. He was led to this conclusion because he had observed that it was only when free fatty acid was present that the bile was able to exert its emulsifying power on neutral fats which otherwise could not be acted upon. Since the fats of the food are neutral the presence of some agent adapted to break them up had to be assumed, and, since the steatolytic function of the pancreatic juice was unknown to him, Marcet ascribed this power to the stomach and detailed experiments on dogs that seemed to support his view.

Since then a few investigators have published corroboratory observations, but, on the whole, the matter has received very little attention and some text-books, like those of Bernstein, Foster and Hermann, entirely ignore the question while others, like Hammarsten and Gamgee, dismiss it with a bare mention of the possibility.

In testing gastric absorption by means of egg and grape-sugar emulsions, F. Volhard found that his preparations were acted upon in a way to recall these almost forgotten observations and on further experimentation (*Zeitschr. f. klin. Med.*, Vol. 42, Nos. 5-6) he was able to demonstrate the occurrence of very extensive breaking up of emulsified egg and milk-fat in the stomach. If a mixture of gastric juice and yolk of egg is allowed to stand at body temperature for from ¾-1¼ hours, the emulsion will be destroyed and the free fat be found floating on top of a clear fluid, but this result will not be obtained if the juice be previously boiled so as to destroy its ferments. The presence of the fatty acids may be easily proven by the preparation of an ether extract, while if the emulsion be simply destroyed by the high acidity of a concentrated artificial gastric juice no such decomposition takes place. The objection that the reaction may be due to some enzyme contained in the egg itself is met by the fact that boiling the gastric juice ruins the experiment, but in working with human stomach contents there is always risk that the retching produced by the presence of the stomach-tube may cause the regurgitation of enough pancreatic juice to invalidate the results, therefore most of the author's work was done on the pure secretion obtained from dogs having a Pawlow fistula. By macerating portions of pigs' stomachs it was found possible to obtain active glycerin extracts of the ferment and the chief seat of its secretion like that of pepsin was determined to lie in the fundus. In all, emulsions of thirteen different fats were subjected to the action of the ferment with the result that from 7 to 56 per cent. of fatty acid was obtained. A further significant observation is the fact that the presence of pepsin and hydrochloric acid in marked amounts inhibits and finally destroys the activity of the steatolytic ferment.

There seems little room for doubt of the accuracy of these observations and the existence of this addition to the list of enzymes will probably have to be regarded as an established fact, but just of how great practical importance the discovery will prove to be is hard to predict. Non-emulsified fats and artificial emulsions apparently are but little affected by the ferment, but when we consider the rôle played by the two most important natural emulsions, milk and yolk of egg, especially in sick and infant feeding, it is not unlikely that considerable practical benefit may accrue from this addition to our knowledge. That increased acidity inhibits the activity of the ferment perhaps explains the well-known repugnance for fats exhibited by patients suffering from hyperacidity, while the reason for the older observation of Pawlow that milk checks the formation of pepsin and HCl is made clear, and it seems that the gastric juice so produced is poor in these constituents but not in other ferments.

WHY ARE CHRISTIAN SCIENTISTS BAD RISKS?

The daily papers have been inquiring on their own acount concerning the attitude of insurance companies towards Christian Science that the Medical News outlined in its editorial columns last week. Business is business, seems to be the motto of the agents who are interested in getting their commission on new policies; and as far as the reporters have been able to find out in their interviews, the sentiment is that if a good healthy Christian Scientist presented himself for examination with the intention of taking out a fat policy, there would be no reason to turn him down, simply because he abhorred physicians.

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The *Sun* states, however, on the authority of a general agent of one of the companies, that "if a company wants to reject Christian Scientists it will be unnecessary to make any changes in the laws or in the form of application. The company can instruct its examiners that it considers Christian Scientists poor risks. All the examiners will do then will be to ascertain if an applicant is a follower of that cult. All applicants are asked when they were last attended by physicians, when and what was their last serious illness and who is their regular physician. In answering these questions the Christian Scientist will be pretty certain to reveal himself, especially if the examiner is on the lookout for him. All that the examiner will have to do then is to hear a little heart murmur or something like that and the home office will reject the application though the applicant produce the affidavits of dozens of medical men that he is sound as a dollar."

Another of our dailies, on the other hand, while telling facetious stories *apropos* of Christian Science and insurance companies, presents statistics calculated to allay the irritation of the insured at the increased risk and the possibility of increased premiums in companies preferred by Christian Scientists by showing that out of the 200,000 believers, in the country, some 6,000 only are candidates for insurance, and advances the easy don't-bother-me argument that if a man is privileged to commit suicide when his policy is two or three years old, he is privileged to die of self-imposed neglect in illness if he desires it.

But anecdotes of inconsistencies and hard-headedness among believers who collect accident insurance after being incapacitated by the "idea" of a broken leg, only serve to turn the attention of the public from two vital facts, viz., Christian Scientists do insure their lives, and they do die earlier than if they were properly cared for. This is difficult to prove to the layman; because to him disease is something that he "gets" and "gets over."

In reality sickness is the giving out of some organ, or the loss of some function. Expert advice in the matter of repairs is as absolutely essential as it is in the case of an ocean steamer that never dares move out of dock without its chief engineer. Physicians are chiefly engaged in strengthening weak organs and regulating disordered functions: they seldom "cure"; it is left to the all-sufficient to assume that responsibility. But they do keep folks a-going; and the result is, that after fifty years of teaching the value of sanitation, disinfectants, quarantine, treatment and sanitariums to the community, the length of life of the average man is much greater than it was, under similar conditions, half a century ago.

The Christian Scientists are bound to be fairly well because they live in a clean land; but otherwise they are bound to die sooner than if they knew what diseases were lurking in them, and slowly developing. There are any number of slowly developing maladies that if not promptly checked will terminate in death in from four to six years; diseases of the kidneys, diseases of the heart, diseases of the liver, the various forms of tuberculosis, and cancer, all insidious in their beginnings, and all requiring the microscope, and expert chemical and physical tests to discover. Among men and women over forty years of age, there is hardly one but that needs watching lest an incipient trouble becomes fatal. But with constant care, they may, they do, live to a good old age. On the success of physicians in warding off fatalities, is based the "expectation of life," which controls insurance rates.

The Christian Scientist who takes out his policy does so with the tacit assumption that he is not going to have any engineer to keep his organs in order, that he is not going to have an early diagnosis or any diagnosis whatsoever of his diseases made. He is bound to accept the physician's word if he is thrown out as a poor risk; but if he is accepted at thirty or forty as a good risk, he makes no pledge of good faith to the company, that he will not let the inevitable diseases and weaknesses of middle life run an unimpeded course to a fatal end.

The whole tremendous growth of life insurance is a thing of some fifty years. It is synchronous with the tremendous advance in science and the great lengthening of lives that would otherwise have succumbed to disease. The growth of Christian Science is a thing of a decade. The insured believers have not yet had time to see what effect a quarter of a century of neglect will have upon themselves and their families, nor have the insurance companies had a chance to prove how rapidly a "good risk" may degenerate into premature decay if he is not honest and sane in the preservation of his health.

Ten years, twenty years, thirty years, if the delusion does not die out as the kindred delusions of the century have done, will however show among Christian Scientists statistics of unchecked diseases with fatal endings that will startle the life insurance companies. Long before that time however they will have put the Christian Scientists into the class with the professional

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bridge-jumpers and lion-tamers and all well-meaning fools that deliberately take their lives in their own hands; and charge them a premium in proportion to their belief.

ECHOES AND NEWS.

NEW YORK.

The Hokey-Pokey Man in New York.—In view of the fact that last week 4,000 hokey-pokey men were turned loose in New York City a recent ordinance passed at Brighton, England, is worthy of attention. The Bill provides, among other things, the infliction of a penalty of 40 shillings "on any manufacturer or dealer in ice cream, hokey-pokey or other similar commodity, who stores such articles in any room or cellar in which there is an opening to a drain, or who, in the manufacture, sale or storage of ice cream, does anything likely to expose them to infection or contamination." It would make an excellent subject for investigation by our vigilant Board of Health to determine just where and under what conditions our itinerant ice-cream vendors manufacture their cheap wares.

The New York Academy of Medicine.—A stated meeting will be held on Thursday, June 6th, at 8:15 P. M. The following program is announced: Presentation of the portrait of William H. Thomson, M.D., formerly President of the New York Academy of Medicine, by W. M. Polk, M.D.; "The Freezing-Point of Urine; Its Determination and the Inferences Which May Be Drawn From It," by J. H. Huddleston, M.D.; "The Early Recognition and Management of Arterial Degeneration," by Louis Faugères Bishop, M.D.

Medical Library of the Medical Society of the County of Kings.—This new library was thrown open on May 19, 1900, and now has over 30,000 volumes, 15,000 pamphlets and some 500 current medical periodicals. Its reading-rooms are open from 10 A. M. to 10 P. M., Sundays and holidays excepted, and its books are loaned to members of the County Society and other affiliated societies of Long Island.

Craig Colony Managers.—Dr. Pearce Bailey has been appointed a member of the Board of Managers of Craig Colony for Epileptics.

A Public Appeal for the West Side Tenement Children.—Those in charge of the Wilkes Dispensary connected with St. Mary's Free Hospital for Children, Ninth Avenue and Thirty-fourth Street, desire to enable the poor of the West Side to obtain sterilized milk for their babies. The Good Samaritan Dispensary has been enabled to do this for the poor of the East Side during the last few years, and has accomplished a great amount of good in the way of saving life and suffering. At St. Mary's there are rooms adapted for the work, doctors and nurses anxious to aid, and a large tenement-house acquaintance in the habit of visiting the dispensary. It is estimated that to put in a sterilizing plant, steam-pipes and water-pipes, sinks for washing bottles, and to supply bottles and milk and the extra help needed, will cost the first year about five thousand dollars. Those interested may call at the hospital, or communicate with Sister Catharine, No. 407 West Thirty-fourth Street.

Dedication of New Consumptive Sanatorium.—The County Sanatorium of the Montefiore Home already described in the MEDICAL NEWS was dedicated May 30th. It is at Bedford Station, Westchester County, about forty miles from this city, and now has a capacity of thirty patients. Since its first opening three years ago, through the generous gifts from the patrons and friends of the Montefiore Home, enough money has been raised to go ahead with the construction of new buildings, which consist of a central administration hall and two pavilions on each side, the group presenting a front elevation of about 419 feet, and having accommodation for 150 consumptive patients, men and women, especially poor people, without regard to race or creed, who have no other place to go. The buildings are of frame, two stories in height, and Colonial in exterior design. The full cost of the land and grounds will foot up about $250,000. The Sanatorium fund was originally started by two $25,000 gifts by Lyman G. Bloomingdale and Jacob Schiff, the latest large contribution being $40,000 from Leonard Lewisohn.

Loomis Sanatorium Buildings.—The chapel, new administration building and charitable annex were opened Monday last. Drs. William M. Polk, Henry P. Loomis and others were among the speakers.

Mt. Sinai Corner-Stone Laid.—The laying of the corner-stone of this hospital which is to be one of the most palatial in this city of beautiful hospitals took place last week with appropriate ceremonies. Among the speakers were Hon. Benjamin B. Odell, Randolph Guggenheimer, Seth Low, Edward Lauterbach and Dr. Abraham Jacobi. President Low of Columbia spoke of the foundation of Columbia College and its early association with hospital work in that the dean of the medical faculty of Columbia in 1769, Dr. Samuel Bard, called attention to the need of a public hospital in that city. Dr. Low said that he was glad to represent the same idea in the consummation of this magnificent design for the establishment of the new Mt. Sinai Hospital. Dr. Jacobi said in part:

"For most of you the definition of a modern hospital is a place to which poor sick people, men, women, and children, are carried with their pains and ills and aches and dangers to have them soothed, relieved, or removed. That is correct. But a modern hospital is no longer

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the table under which 'the dogs eat of the children's crumbs.' That is what it was when incipient civilization, represented either by religious orders or by the buddings of a dawning sense of humanitarian responsibility, found it necessary to offer some aid to indigent and helpless sick fellow-creatures. A modern hospital, however, is no longer a dispenser of 'crumbs.' In it the inmates, rich or poor, enjoy the superior advantages of wealth, ingenuity, learning, and unceasing watchfulness.

"And now I will tell you in a few words of some of the points of view from which we doctors look upon a hospital. Ours is the vocation to relieve pain, remove or shorten disease, preserve limbs, save lives; or, if all that cannot be done, to soothe suffering, or render inevitable death more placid or endurable. Moreover, have your political economists ever calculated what the successful efforts of a hospital doctor or a doctor in general are worth financially to the individual and to the community? A child, an adolescent or adult dead is so much loss of capital spent on raising them; every day or week of illness that is lost to remunerative labor is so much capital squandered, and a detriment to the national wealth. Whoever dies before the physical necessity of advancing age sets a natural end to his existence is a loss to humanity.

"At the same time, a hospital is a school for doctors who learn and profit in the interest of mankind from collected and collective experience. It is a school for nurses whose very existence was not dreamed of twenty-seven years ago, before the first training school was founded in connection with Bellevue Hospital; a school for the patients and their families, by what they are taught, during their own sufferings and recovery, of cleanliness, of resources, and of preventive or curative measures; a school for the medical world abroad by the scientific contributions emanating from the institution, either individually or collectively, in the shape of reports."

Provisional Program of Clinical Days at the Albany Hospital, July and August, 1901.—Tuesday, July 2d, Introductory address by Albert Vander Veer, M.D., senior surgeon to the hospital, followed by Demonstration clinic in surgery, diagnosis and operations, by Albert Vander Veer, M.D., and Willis G. Macdonald, M.D. In the afternoon, Bender Laboratory. General remarks on the use of the microscope. Method of examination for the tubercle bacillus, by George Blumer, M.D.; Clinical lecture on chronic nephritis, by Samuel B. Ward, M.D.

Tuesday, July 9th: Address in clinical gynecology, by James P. Boyd, M.D., Demonstration of cases in the surgical wards, by W. G. Macdonald, M.D., Practical demonstration of methods for sterilization of dressings, instruments and water adapted to private practice, by C. H. Richardson, M.D. Afternoon, Bender Laboratory. The microscopic examination of urine: The significance of blood, pus and crystals, by A. W. Elting, M.D., Clinical lecture on locomotor ataxia, by Henry Hun, M.D.

Tuesday, July 16th, Demonstration of the use of the Roentgen ray in the treatment of fractures and dislocations, by William Hailes, Jr., M.D., Clinical demonstration in abdominal surgery, by W. G. Macdonald, M.D., Improved methods in the application of plaster-of-Paris dressings for the treatment of deformities, by A. W. Elting, M.D. Afternoon, Bender Laboratory. The microscopic examination of urine; the origin and significance of casts, by A. W. Elting, M.D., Application of the modern instruments of precision for diagnoses, by H. Van Rensselaer, M.D.

Tuesday, July 23d, The Roentgen ray in the diagnosis of foreign bodies (lodged), of biliary and renal calculi, of tumors, of diseases of the osseous system, by William Hailes, Jr., M.D., Demonstration and diagnosis clinic in surgery, with operations, by Albert Vander Veer, M.D., and W. G. Macdonald, M.D. Afternoon, Bender Laboratory. The methods of blood examination; red blood-corpuscles, leucocytes, hemoglobin, by A. W. Elting, M.D., Modern methods of quarantine and disinfection, by Joseph D. Craig, M.D., health officer of the city of Albany.

Tuesday, July 30th, Clinical demonstrations in dermatology, by Arthur Sautter, M.D., Catheters; their care and preservation, catheterization in stricture and enlarged prostate, by W. G. Macdonald, M.D., Demonstration of methods in infant feeding; the care of infants, at St. Margaret's Home, by H. L. K. Shaw, M.D. Afternoon, Bender Laboratory. The diagnostic value of blood examinations; anemias, leucemias, infectious processes, etc., by A. W. Elting, M.D., Modern methods in the diagnosis of cancer of the stomach, by A. MacFarlane, M.D.

Tuesday, August 6th, Demonstration of the obstetrical methods employed in the Albany Hospital, by William H. Happel, M.D., Diagnosis clinic in pelvic and abdominal diseases, examinations under anesthesia, by W. G. Macdonald, M.D., The treatment of deformities of the feet; tendon transplantation, by Arthur W. Elting, M.D. Afternoon, Bender Laboratory. The value of uterine scrapings in diagnosis, by George Blumer, M.D., Clinical demonstration in gastro-enteric diseases, by Leo H. Neuman, M.D.

Tuesday, August 13th, Methods of sterilization with particular reference to their adaptability to the wants of the general practitioner, by C. H. Richardson, M.D., Clinic in gynecology and abdominal surgery, by W. G. Macdonald, M.D., C. H. Richardson, M.D., and A. W. Elting, M.D. Afternoon, Bender Laboratory. The significance of the Widal reaction; the methods and significance of examinations for the gonococcus, by George Blumer, M.D.,

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Clinical lecture on chorea and choreiform affections, by J. M. Mosher, M.D.

Tuesday, August 20th, Demonstration clinic in diseases of the nose and throat, by Arthur G. Root, M.D., Demonstration of cases in the surgical wards of the hospital, Demonstration of the use of the endoscope and cystoscope in diseases of the genito-urinary tract. Afternoon, Bender Laboratory. The value of bacteriologic examinations in cases of suspected diphtheria, with remarks on antitoxin, by A. W. Elting, M.D., Rheumatism and rheumatoid affections, by A. MacFarlane, M.D.

Tuesday, August 27th, Demonstration clinic in diseases of the nose and throat, by Arthur G. Root, M.D., Clinic in surgery, by W. G. Macdonald, M.D., A. W. Elting, M.D., and C. H. Richardson, M.D., Demonstration of clinical methods in diseases of the eye and ear, by C. S. Merrill, M.D. Afternoon, Filtration Plant. Bacteriological examination of drinking water; its value and demonstration of methods employed at the Albany filtration plant, Demonstration of the methods for collection, transportation and the physical and chemical examination of potable water, by Willis G. Tucker, M.D.

Physicians who desire further information in reference to the above program can obtain full details by addressing Dr. Edgar A. Vander Veer, 28 Eagle Street, Albany, N. Y.

State Civil Service Examinations.—The following position is open for competitive examination, June 15, 1901. Competitors must be at least twenty-one years of age and citizens of New York State, except as otherwise indicated: Assistant Superintendent State Hospital for Crippled and Deformed Children, Tarrytown, N. Y. Salary about $1,200 per year and maintenance. This officer is to be the business manager and steward of the institution. No medical knowledge is required. Experience in care of buildings and grounds and management of institutions and some knowledge of accounts desired. Subjects of examination and relative weights: questions on the duties of the position, including care and management of institution, purchase of supplies, accounts, etc., 6; experience and education, 4.

PHILADELPHIA.

Reception to Dr. Wyman.—Dr. Walter Wyman, Surgeon-General of the United States Marine-Hospital Service, was given a reception by the Medical Club of Philadelphia May 23d, about 150 physicians being present.

Medico-Chirurgical Commencement.—The annual commencement of the Medico-Chirurgical College was held May 25th. The graduates numbered 115—69 in medicine, 25 in dentistry, and 21 in pharmacy.

Pennsylvania State Medical Society.—The date of the annual meeting to be held in Philadelphia this fall has been changed from September 17-19 to September 24-26.

First Woman Physician in Philadelphia.—Dr. Hannah W. Longshore, the first woman to practise medicine in Philadelphia, celebrated her eighty-second birthday, May 23d. She is a graduate of the Women's Medical College of this city.

Protest against Hospital.—Prominent citizens of Narberth have protested against the locating of the pay hospital for contagious disease in that borough. No site in this city could be secured and 5½ acres have been purchased at the above location.

Typhoid Fever in West Philadelphia.—An epidemic of typhoid fever is present in West Philadelphia. Of the 142 cases reported last week more than one-third were from two wards in that section. Analyses of milk and water have been made, but the source of infection has not yet been discovered. An inspection of the sewers is contemplated.

Streptothrix Infections.—At the meeting of the County Medical Society May 22d Dr. J. H. Musser, the retiring President, delivered an address on the above subject. He spoke of infections of this class other than actinomycosis and madura foot. The lungs, brain and skin are the organs most frequently involved. From the clinical standpoint they present little that is new. Pulmonary involvement is often hidden under tuberculous symptoms. The findings of the streptothrix determines the diagnosis. Dr. Musser concludes that these infections are probably overlooked in many instances. Many of the so-called sterile abscesses may be streptothrix infections. Abscesses of the brain especially those without fever may also be due to the same cause.

CHICAGO.

Chicago Eye, Ear, Nose and Throat College.—Dr. Joseph C. Beck has recently been elected to the faculty of this institution as Pathologist and Professor of Otology.

Dr. Senn's Race against the Sun.—Dr. Nicholas Senn will devote his summer vacation to a ninety days' trip around the world. He will travel in an easterly direction, and the journey has been christened by him as "a race against the sun." The same phrase will form the title of a book, in which form letters to the *Chicago Tribune* will appear later. He will be accompanied by Dr. Daniel R. Brower, his colleague at Rush Medical College, and two other professional acquaintances.

Illinois Charitable Eye and Ear Infirmary.—Dr. Charles L. Enslee, for nine years otologist at the institution, has been asked to resign, and Dr. Norval H. Pierce has been named as his successor. The resignation of Dr. Wm. L. Noble, Surgeon-in-Chief of the eye department of the hospital, also has been requested. In connection with the removal of the two phy-

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sicians, it is announced by the new Board of Trustees that the old Board of Medical Control, which was discarded as obsolete for four years, again is to be put in charge of the hospital. This institution was founded by Dr. Edward L. Holmes in 1858, and more than 250,000 poor persons have been treated in the hospital during its forty years of existence.

Appointment of Dr. Campbell.—Dr. O. Beverly Campbell, of St. Joseph, Mo., has been appointed on the gynecological staff of the Post-Graduate Medical School.

Five-Year Medical Course.—The Northwestern University Medical School, of this city, has added one year to its course for the benefit of fourth-year students and practitioners. This course will be inaugurated in October, 1901. Thirty-three per cent. of the students graduated from regular four-year courses have secured at the time of graduation appointment as internes in the various hospitals. The object of this additional year is to furnish to those students who have not been successful in obtaining interneships a more practical course than is compatible with the diverse routine work of the third and fourth years.

Illinois State Medical Society.—The fifty-first annual meeting was held at Peoria, May 21, 22, and 23, 1901, under the presidency of Dr. George N. Kreider, of Springfield. The Committee on Medical Legislation was empowered to draft a bill providing for a board of medical examiners in Illinois, the Committee to consult such laws as are operating best in other States. A resolution was offered and adopted that a bill be introduced at the next meeting of the Legislature requiring that the true names and quantities of the ingredients be plainly printed on each package of patent medicines and nostrums offered for sale. The Legislative Committee was requested to attempt to pass a bill forbidding in any wise exhibitions of hypnotism for the purpose of obtaining money.

Epileptic Colony.—The Legislative Committee was instructed to use all its power to secure the location of an epileptic colony in Illinois which was provided for by a bill passed by the Legislature two years ago.

Sanatorium for the Tuberculous.—The matter of securing legislation for the establishment of a sanatorium for the tuberculous was referred to a special committee which will report next year.

School of Graduation No Bar to Membership in State Society.—After considerable discussion, a resolution was adopted, that school of graduation shall be no bar to membership in the Illinois State Medical Society, providing such physician is recognized by the local society as qualified and not claiming to practise any exclusive system of medicine.

Officers of the State Society.—The following officers were elected for the ensuing year: President, Dr. T. J. McAnaly, Carbondale; First Vice-President, Dr. M. L. Harris, Chicago; Second Vice-President, Dr. J. W. Hensley, Peoria; Treasurer, Dr. Everett J. Brown, Decatur; Permanent Secretary, Dr. E. W. Weis, Ottawa; Assistant Secretary, Dr. Charles Dewey Center, Quincy. Quincy was selected as the place for holding the next annual meeting.

GENERAL.

Christian Scientists' Mecca and Medina.—It seems that the Massachusetts House does not desire to exclude Christian Scientists, or any of the so-called irregular practitioners, from the healing field, and has amended the Senate Medical Practice Bill accordingly.

Rhode Island Medical Society.—The ninetieth annual meeting of this Society will take place Thursday, June 6, 1901, in the Masonic Building, Providence. The annual address will be delivered by Dr. G. Alder Blumer, the title being "The Yesterday and To-day of Mental Medicine." Among the papers to be read are: "Etiology of Acute Pancreatitis in Children," by Dr. E. D. Cheseboro; "Simple or Transient Glycosuria," by Dr. S. A. Welch.

American Laryngological Association.—The twenty-third annual meeting of this Association was held in New Haven Tuesday, Wednesday and Thursday of this week. Dr. Henry L. Swain, of New Haven, was in the chair. President Arthur T. Hadley, of Yale, delivered the address of welcome and Dr. Swain read the president's address. Papers were read by Dr. Jonathan Dwight, of Brooklyn; Dr. A. Coolridge, Jr., of Boston; Dr. John O. Roe, of Rochester; Dr. Arthur Ames Bliss, of Philadelphia; Dr. S. Solis Cohen, of Philadelphia; Dr. Henry L. Wagner, of San Francisco; Dr. J. Edwin Rogers, of Chicago; Mayo Collier and W. F. Chappell, of New York; W. E. Cassellsbury, of Chicago; Emil Mayer, of New York, and J. H. Bryan, of Washington. The members visited the Yale psychological laboratory at the close of the day's session. The annual reception was tendered by President Hadley Tuesday evening.

New Vienna Hospital.—The comprehensive plans for the reconstruction of the Vienna General Hospital are reported to be in active stages of consummation. It is proposed to spend no less than $10,000,000 upon the improvement of hospital accommodations in Vienna, and the requisite permission has been secured from the Town Council. The Wiener Allgemeines Krankenhaus, in the Alserstrasse, which, with its many clinical institutes, and its concentration of material for clinical observation and research, is one of the leading public hospitals in Europe. Of late the growing demand for space, and the disturbances due to street traffic, have caused many complaints.

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The late Professors Billroth and Albert, among others, protested vigorously, but all they could achieve was the erection of one or two temporary clinical institutes within the old hospital, as the enormous cost of a radical reform seemed prohibitive. Now it has been decided to remove two asylums, which are within a reasonable distance of the hospital, and appropriate their sites for new medical buildings. There is room for forty pavilions, with accommodation for two thousand patients, and a number of clinical institutes. The Medical School will then be one of the largest in the world, but it will be a long time, perhaps ten years, before the whole system is in working operation.

Leper Hospital Burned.—The Plantation House on the Elkhorn Plantation, Jefferson Parish, Louisiana, just purchased by the Board of Control of the Leper Home, and to which it was proposed to move the lepers now confined at Indian Camp, was burned by incendiaries at an early hour May 23d. It is recognized generally that the building was burned by persons in the neighborhood to prevent removal of the lepers there. Bitter opposition has existed to the establishment of a leper house in a thickly populated neighborhood.

Physicians Strike.—Another strike of physicians is reported in German newspapers. It appears that there exists at Bamberg, Bavaria, as in many other cities, a Krankenkasse, or mutual insurance association against illness. It has 800 members, who are entitled to twenty weeks of medical treatment a year, and the association has prospered so well that it has over $32,000 in its treasury. In 1893 an arrangement was made with local physicians, who agreed to take care of the members at a cost not to exceed twelve cents a visit, the average charge being seven cents. Evidently the physicians did not have the best of this arrangement, yet there was no protest on their part until the association began to add insult to injury. A mountebank and hypnotist delivered a lecture in which he assailed the medical profession in the most abusive language, and extolled his own method of assisting nature in curing disease. Some of the members of the association thereupon wished to accept this fellow as one of their doctors. The physicians promptly refused to acknowledge him as a colleague, both on legal and on professional grounds. When, nevertheless, in spite of protest, a majority of the members voted to accept this healer (who objected to the use of any medicine), the physicians promptly threw up their contract, agreeing, however, to continue treatment of such patients as they had charge of at the time.

Dr. Ohlmacher and the Ohio Hospital for Epileptics.—On May 1st Dr. A. P. Ohlmacher, Director of the Pathological Laboratory at the Ohio Hospital for Epileptics at Gallipolis was summarily discharged by Dr. H. C. Rutter, Manager of the Hospital. It now develops that immediately on learning of this action Governor Nash requested Dr. Rutter's resignation, a step he had long contemplated on account of the personal and political indiscretion of the Manager, but from which he was deterred by his respect for the opinions of the medical profession. Dr. Ohlmacher's discharge seems to have been the signal for final and speedy action on the Governor's part.

At a meeting of the Board of Trustees of the Ohio Hospital for Epileptics, May 17th, Dr. H. C. Rutter, Manager, formally tendered his resignation which had been requested by Governor Nash. At this time an effort was made by Dr. Rutter to obtain the support of the Trustees in his discharge of the Director of the Pathological Laboratory, Dr. A. P. Ohlmacher, but a letter from the Governor to the Board of Trustees was read expressly forbidding this action.

Obituary.—Dr. Theodore F. Rumbold, known in America and Europe for his contributions to medical literature and researches in nasal surgery, died in St. Louis last week, at the age of seventy-one. He was a native of Aberdeen, Scotland. He came to America in 1834.

Dr. Conrad Wienges, a Jersey City physician, died at his home, 473 Jersey Avenue, early yesterday morning. He was born in Charleston, S. C., in 1848.

Dr. Marie J. Mergler recently died in Los Angeles, California, of pernicious anemia. She was one of the leading woman physicians of Chicago and was Dean of the Woman's Medical College. Dr. Mergler was born in Bavaria. In 1876 she matriculated at the Woman's Medical College of Chicago, graduating in 1879. Soon afterward she was elected lecturer on Materia Medica at her Alma Mater, and later went to Zurich to study for a year. In 1881 she returned to Chicago, and began to establish a general practice. Upon the death of Dr. William H. Byford, Dr. Mergler was appointed his successor as Professor of Gynecology of the Woman's Medical College. Dr. Mergler was one of the attending surgeons at the Woman's Hospital of Chicago, and gynecologist to the Wesley Hospital. She served as Professor of Gynecology at the Post-Graduate Medical School, and when appointed on the attending staff of the Cook County Hospital was the second woman to hold such a position. Dr. Mergler was elected head physician of the Hospital for Women and Children soon after the death of Dr. Mary Thompson, its founder.

Dr. Jane Kendrick Culver, one of the most successful of the women physicians of Boston, died Monday at her home. She was born near Enfield, Mass., and was graduated at the Boston Homeopathic College in 1878.

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CORRESPONDENCE.

OHIO STATE EPILEPTIC HOSPITAL CONTROVERSY.

To the Editor of the MEDICAL NEWS:

DEAR SIR: Your cordial response to my circular letter of May 4th was most gratifying and on behalf of those, like myself, who are engaged in State laboratory work and who are hampered by institutional or political restrictions I beg to thank you.[1] Since issuing that circular the events in our unfortunate local affair have followed rapidly. It is now certain that within twenty-four to thirty-six hours after he discharged me Dr. Rutter's resignation was asked for by Governor Nash. It develops that the Governor had only paused in this contemplated step fearing that Dr. Rutter's removal would embarrass the medical-scientific work of the Laboratory and thus offend the medical profession. On the 17th inst. our Board of Trustees met and here Dr. Rutter endeavored to obtain support for his aetion against me, but was met by a letter from the Governor expressly forbidding my disturbance.

Dr. Rutter was appointed here by the then Governor of Ohio, now President William McKinley, and Dr. Rutter's acts of offensive political partizanship have attracted attention in political circles from those in Gallia County to the President himself, thus giving the affairs of this institution an unusual prominence. It must, therefore, be evident that Governor Nash's respect for our profession and his sympathy with the scientific spirit for which the Laboratory stands make a profound impression politically; and that individual action, medical society action (like that of the Ohio State Medical Society, May 9th, commending Governor Nash for his "broad-minded statesmanship") or the voice of the medical press are very timely and will be the means of advancing the movement for State scientific medical research in political estimation.

I am glad that personalities may now be laid aside and that we may all now look to the results of our trouble here broadly and as offering an exceptional opportunity of advancing the interests of scientific medical progress.

A. P. OHLMACHER.

Gallipolis, Ohio, May 18, 1901.

To the Editor of the MEDICAL NEWS:

DEAR SIR:—My attention has just been called to a circular letter written by Dr. A. P. Ohlmacher and bearing date, May 4th. The letter is so full of misstatements and direct falsehoods that I cannot in justice to myself and the profession permit it to remain unanswered. In the first place Dr. Ohlmacher states, "I received a letter from Dr. H. C. Rutter, Manager, etc., discharging me from my position of Director of the Pathological Laboratory in this Institution. This is untrue as the letter spoken of will show. It was as follows:

Ohio Hospital for Epileptics, May 1, 1901.

Dr. A. P. Ohlmacher, Gallipolis, Ohio:

Dear Doctor—Reckoning your agreement with the Hospital for services, to be on a yearly basis, the present term will expire the middle of the current month. I consider it my duty to inform you that the management has decided to make other arrangements for the ensuing year, and therefore its business relations with you will terminate at that time.

Wishing you all the success your genius merits, I am, Yours respectfully,

H. C. Rutter.

It will be seen that he was not discharged but notified politely that he would not be re-appointed for another year. In the next place, with a characteristic lack of modesty, he denounces his failure to be reappointed as an assault by Dr. Rutter on the Laboratory and takes advantage of a political warfare that has been waged against Dr. Rutter for years to make insinuating remarks to his discredit. He fails to state that the Laboratory is a result of Dr. Rutter's continuous labor for eight years. That it had been in successful operation for more than three years before Dr. Ohlmacher's connection with it, and that he owed his employment and continuous service entirely to the efforts of Dr. Rutter against the unceasing assaults of the political tricksters with whom Dr. Ohlmacher joined his fortunes as soon as he felt that they had a chance of success. In the next place he insults the profession by insinuating that he is the only available man capable of doing the work required in the position, and that a change implies disorganization and ruin. The absurdity of his position will be readily appreciated when it is known that Dr. Ohlmacher has had absolutely nothing to do with the establishment or maintenance of the Laboratory. He was an employé simply and purely, received an ample salary, was supplied with the best equipment obtainable, and got all the credit in the Medical world his work entitled him to. The labor of sustaining the Laboratory, securing appropriations for its maintenance, and his salary, and receiving all the criticisms of the politicians, and many state officials was my part of the work. This division of labor and rewards should be some indication of my unselfish interest in the success of the Laboratory.

Now as to the reasons for Dr. Ohlmacher's failure of re-appointment. Broadly stated his services were unsatisfactory for the reason that he constantly neglected his work, and in the opinion of his employers did not earn the salary paid him. This matter has been a subject of discussion in the Board of Trustees for more than one year and hence it cannot be said that a conclusion was hastily reached. In addition to his neglect of work his disposition has been so intensely disagreeable that he has been a focus of continual discord and inharmony. He states in his letter that seven contributions have been made from the Laboratory in the year past. This is absolutely untrue, and should not be received without at

[1] Introductory phrase a gratuitous one—no response having been sent.

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least mention of the contributions and where they appeared. It is true that he spent several months compiling sections for a Text Book on Pathology and while so doing absolutely neglected the research work he was employed to perform.

In his circular letter he appeals for assistance in overturning the acts of his employer for four years and coercing by the authority of the Governor the men who have built the Laboratory, successfully started it, and secured all of the aid to maintain it. In effect he seeks to ally the Medical Profession with a band of unscrupulous politicians who are at present using him to help disorganize the present management and who will fling him aside as soon as their purposes are accomplished.

The only question involved in this matter is whether or not an employer who is charged with the responsibility of men may have the right to change an employé without having his motives criticized upon the unsupported statement of the individual dislodged. The Laboratory has not been threatened by any body except Dr. Ohlmacher's new found political manipulators who will probably succeed in overthrowing its founders and supporters, and it is in aid of this gang that he invokes the assistance of the medical societies and periodicals.

H. C. RUTTER.

Gallipolis, Ohio, May 20, 1901.

SOCIETY PROCEEDINGS.

AMERICAN PEDIATRIC SOCIETY.

Thirteenth Annual Meeting, Held at Niagara Falls, May 27, 28 and 29, 1901.

FIRST DAY—MAY 27TH.

President's Address.—The President, Dr. Wm. D. Booker, of Baltimore, spoke of the loss sustained by the Society since its last meeting in the death of Dr. J. H. Fruitnight, one of the most useful and highly esteemed members of the profession. The President's formal talk was devoted to a review of the early literature of cholera infantum.

History of Cholera Infantum.—The disease was first noticed as an entity by American observers. In Colonial days it was a common affection of children living along the Atlantic Coast and was at one time believed to be peculiar to that locality. Rush described it in 1777, and it went by various names during the succeeding half century, during which time it was practically unappreciated in Europe. Even today there remains in some degree a semi-traditional neglect of digestive disorders by medical men; the old tendency survives of relegating these troubles to mothers and nurses; pathologists have scarcely given proper attention to the subject. What we know of the disease we owe chiefly to the clinician. Among European countries Germany was first to give attention to cholera infantum. France follows, but French writers of the early part of this century say the disease is practically unknown in their country, and they quote American authors on the subject. English clinicians remained indifferent to cholera infantum until the middle of the nineteenth century.

Etiology and Treatment.—These were first considered in the treatise by Rush, who also gave an accurate clinical history of the disease. In 1812 James Jackson gave a beautiful description of the wasting form of summer diarrhea in infants; his autopsies, in which he was assisted by J. C. Warren, were the first made in this connection, and served to establish the inflammatory condition of the alimentary mucous membrane. Howell in 1823 refers to atmospheric heat as a causative factor; the same subject is treated a little later by Cooke. Horner's description of ulcerated intestinal follicles, published in 1828, was of the greatest value. In historical order, the etiological factors considered were heat, dentition, worms, vitiated atmosphere, marsh miasm, the last named being referred to at a time when cholera infantum was classed with remittent fevers. In regard to treatment, calomel was a favorite drug among early writers, and stomach washing and intestinal irrigation were afterward introduced. To-day hygiene and careful dieting are the key-notes in prophylaxis and treatment.

Arteriosclerosis in a Boy.—This case was presented by Dr. Allen Baines of Toronto, who referred to the rarity of the condition. Holt refers to but seven cases. The present case is notable for the existence of "pipe-stem" arteries throughout the body. No history of syphilis could be obtained; the boy had had measles, but no other acute disease. He was a particularly healthy child. On December 8th he had three convulsions, vomited, and swollen cervical glands were noticed. Two days later he came to the hospital, and the large unhealthy ulcers in his mouth suggested cancrum oris. Antiseptics and styptics were used locally, chlorate of potash internally. On December 14th urinalysis showed 8 per cent. albumin; microscopical examination negative. Gums would bleed on slightest pressure. Repeated attacks of epistaxis occurred, which were controlled by suprarenal extract. Rigid arteries could be felt everywhere; the heart was enlarged, reaching left nipple line, and these conditions explained the frequent and almost uncontrollable hemorrhages. A vessel could be seen plainly spurting from the right side of the septum when epistaxis occurred. On January 7th, dyspnea and precordial distress; pulse 130; liver 3 inches below costal margin; heart impulse diffuse, apex located displaced downward and outward. January 8th abdomen tympanitic. January 10th, respirations becoming slower and slower, heart feeble. Death occurred at 10 a.m.

General Fibrosis Present.—Gross and minute examination after death showed general fibrosis. Margins of mitral cusps were slightly thickened; atheroma of aorta was marked; the

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coronaries were hardened, and fibrosis had impaired the myocardium. In the kidneys the vascular changes were well marked, and the organs were shrunken, cortex narrow, surface lobulated. In the brain above were vessels found which were perfectly normal.

Pernicious Anemia in Infancy.—Dr. T. M. Rotch of Boston said that while clinical examinations of the blood had done much to differentiate diseases of the blood, the subject had not been exhausted. The instability of the blood-making organs in infants enhances the difficulty encountered in the diagnosis of cases during this period of life. Cabot's findings properly sum up the knowledge of the present day. It is argued that all anemias are secondary or symptomatic, but a class of cases can be separated which end fatally and for which no cause can be found. Pernicious anemia is rarer in infancy than in childhood. Up to 1897 only 25 cases were recorded occurring in patients under fifteen years; all were fatal. In 2,068 cases admitted to the children's wards of a Boston hospital no single case of idiopathic pernicious anemia is recorded. All recorded cases have been fatal except one case observed by Dr. Rotch and Dr. Maynard Ladd, an account of which Dr. Rotch presented to the Society.

Etiology.—There is no known cause and no generally accepted theory. Fatty degeneration of the heart, and an atrophic condition of the glands of the digestive tract are probably secondary, not primary. Failure has followed the attempt to find a specific micro-organism. Cabot, with justice, declares that to say merely that pernicious anemia is a disease of the blood-making organs is to admit that we do not know its cause; we know very little about these organs themselves. Hunter's theory is that of auto-intoxication from the intestinal tract. The ptomains which he isolated from the urine are probably due to the digestive disturbances which exist in anemias. Cases of carbon-monoxide poisoning add weight to the intoxication theory. Of the pathology it need only be said that in infants the conditions correspond to those in adults.

The Blood Changes.—The most important clinical lesions are in the blood, which shows on examination feeble coagulation; no formation of rouleaux; reduction of specific gravity; diminution of bulk; a fall of red-blood-cells to 2,000,000 or even to 1,000,000; hemoglobin reduced to 30, 20, 10 per cent.; total leucocytes may be high, and the finding of some myelocytes is not uncommon; average diameter of red cells increased; megaloblasts especially characteristic among the nucleated red cells that are found; oval and pyriform red cells are regarded as characteristic.

A Case Which Apparently Recovered.—One patient, a baby, was under oservation from birth, when it weighed 7½ pounds and was in all respects normal. After the second day was fed with breast milk. Digestion normal at three weeks after slight temporary evidence of intestinal indigestion. At four months the child began to lose weight; indigestion marked. Taken off breast and modified milk substituted, first with 3.50 per cent. fat, 6 per cent. sugar, 1 per cent. proteid; later these percentages were increased to 4, 7, 2 respectively. Child gained one pound in ten days. At five months a mild attack of measles; recovery. At six months weighed 16¼ pounds; healthy in general. Some slight indigestion at irregular intervals was controlled and corrected by changes in composition of milk as needed. At eight months, pallor noticed. Nine months, milk increased to, fats 4 per cent., sugars 7 per cent., proteid 2 per cent.; improved: digestion normal. Then insidiously symptoms of anemia developed, rise of temperature, coryza, fretfulness, pallor, malaise. On November 4th, the child being ten months old, pallor was marked, temperature 100° F. Systolic murmurs developed; the face and hands and feet became puffy. No subcutaneous hemorrhage; no enlargement of spleen or lymph-nodes. Urine contained slight trace of albumin, no blood or casts. Edema could not be accounted for by condition of kidneys. The blood examination on November 5th was that of a severe secondary or a primary pernicious anemia, red cells 1,732,000, hemoglobin 30 per cent., leucocytes 9,200. No source of anemia could be traced. Milk was obtained from another herd of cows, though the earlier source of supply had previously given satisfaction and there was no reason to suspect it; the change made no difference; the child continued steadily to fail.

Treatment.—Brandy, careful feeding, cereals and broths were tried, but abandoned. On November 21st inhalation of oxygen was tried, at ten-minute intervals day and night; temperature subsided, pulse improved, apathy diminished. Dr. A. Jacobi saw the child two days after this improvement began. He suggested Liq. potass, arsen. and Ferratin, the latter as a substitute for the iron previously given in another form. In a week the arsenic was dropped as physiological reaction occurred. It was tried again and a second time was dropped. In no recorded case has oxygen been used so freely as in this instance. The improvement which occurred is shown by the tables which follow, representing a summary of repeated blood examinations made by Dr. Ladd with the coöperation of Dr. Cabot:

	Red Cells.	Hemoglobin (Per cent.)	Leucocytes.
November 21st (oxygen begun)	1,088,000	20	18,800
December 5th	2,000,000 +	35	10,800
January 2nd	4,216,000	70	11,000
January 30th	4,884,000	75	11,800
March 12th (nucleated red cells have disappeared)	5,270,000	80	

While the improvement in this case began from the time oxygen was first administered

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under Dr. Rotch's direction, the latter does not regard the case as one which presents conclusive evidence of the value of this treatment, as cases no doubt occur which improve in the absence of treatment. Further experience is needed as the basis for scientific conclusions.

Prognosis.—Dr. Cabot regards the case as one of progressive pernicious anemia, and we must not be surprised if it goes the way of such cases. Yet to-day the patient, at eighteen months of age, weighs 20 pounds, has normal blood, and, so far as present examination can show, is a perfectly healthy child. The pathognomonic signs of progressive pernicious anemia were all present in this case; but Dr. Rotch believes that these signs lose some of their significance in infants owing to the activity of the blood-making organs in infancy.

Heart Murmurs in Infants.—Dr. Wentworth of Boston, taking up the question of heart murmurs in anemia, said he had been looking for so-called functional murmurs in babies under three years, and believed that they are very rare. It would be interesting to know whether the murmur which developed in Dr. Rotch's case still persists.

Dr. Wm. P. Northrup of New York declared that at the New York Foundling Asylum heart murmurs are common among children and infants who have no organic lesion. Thousands of such cases occur under three years of age; in fact an overwhelming proportion of heart murmurs in infants occur in the absence of valvular disease.

Dr. J. Lovett Morse of Boston said that rules of blood diagnosis which apply in adults do not hold good in infants. While in Dr. Rotch's case the blood examinations give fairly characteristic pictures of a pernicious anemia, or what would be so regarded in an adult, identical conditions of blood are met with in cases where the etiological factors are definitely known. Hence he could not concur in the prognosis which Dr. Cabot had given.

Dr. C. W. Townsend of Boston did not feel that there would be any return of the anemia in Dr. Rotch's patient. Two cases of extreme anemia in infants were recently under his observation. The diet in these cases had been insufficient, and one case promptly succumbed before treatment was well under way. In the second case, which like the first had been previously fed on modified milk, pasteurized and peptonized, the child improved as soon as a stronger diet was substituted.

Unusual Causes of Transient Albuminuria.—Dr. Dorning cited a case in which palpation of the kidney caused not merely albuminuria, but the appearance of casts in urine examined two hours after the palpation. One hour before this procedure the urinalysis had yielded negative results. A systematic investigation of this subject would be interesting.

Dr. F. A. Packard has seen a case of movable kidney in which evening albuminuria is a regular occurrence; after rest in the recumbent posture the amount of albumin is decidedly diminished. The kidney in this case is retained by a pad, and practically one can tell whether or not the pad is worn and is in place by examining the patient's urine.

Dr. Henry Koplik said that all cases of transient albuminuria should be carefully watched. Even Heubner does not insist upon the purity of cases of so-called functional albuminuria; there is always a reservation to the effect that a mild grade of nephritis may be present, or to put the matter differently. The possibility of a development of nephritis should be kept in mind.

So-Called Cyclic Albuminuria.—Dr. Frank Spooner Churchill emphasized the importance of alterations in blood-vessel walls, as well as changes in the blood itself, in the production of cyclic albuminuria. A plausible theory ascribes the vascular changes to previous inflammation. The influence of posture, diet and weather changes has been pointed out by various writers on cyclic albuminuria. The absence of definite knowledge of structural conditions is due to the fact that the condition is never fatal. Where a loss of elasticity has occurred in the glomerular vessels, these vessels may be able to functionate while the person is resting and recumbent; but an increase of pressure is followed by albuminuria. Both local and general factors are involved. Osler believes that a large proportion of cases of cyclic albuminuria get well.

Tendency to Kidney Trouble Should Be Controlled.—Dr. Churchill asked whether cyclic albuminuria might not be regarded as a manifestation of hereditary tendency in the Weissmann sense. If so, this suggests the proper treatment of these cases; the "tendency" should be prevented from developing into an actual condition. Dr. Churchill made an exhaustive study of a case of so-called cyclic albuminuria in a girl eleven years old. Eighty examinations of urine made at various hours during the day, over a period of many weeks, showed the frequent presence of albumin during afternoon hours, and its absence, as a rule, in morning hours and its disappearance during the evening. The patient passed a fair amount of urine constantly and showed not the mildest symptoms of uremia at any time. Urea was passed in good quantity. Of interest were the family history, pointing to cardiovascular trouble, and the personal history, which revealed a previous attack of measles, tonsillitis, and what the family physician called "catarrhal enteritis." The latter was possibly an abortive typhoid, as expert bacteriological examination showed, in the words of the bacteriologist, "incomplete reaction to Widal." In this case, the treatment has been a low nitrogenous diet, plenty of water, 5 grains of urotropin t.i.d., massage, and

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light gymnastics. Marked improvement in the character of the urine has occurred. The case could not have been diagnosed nor would necessary treatment have been instituted if frequent urinalyses, at various hours and under various conditions, had not been made.

Epidemic in Children; Questionable "Malaria."—Dr. Rowland G. Freeman reported an epidemic at the New York Foundling Asylum. The cases all developed in the early summer of 1899 in a group of children occupying a certain section of the Asylum, near which in the spring of that year excavations had been made; stagnant water was allowed to collect in these excavations early in June. It was difficult, Dr. Freeman said, to reconcile this theory of causation with the mosquito theory, as the epidemic occurred too soon after the collection of this water to have permitted the development of the plasmodium in the mosquito. Malaria was suggested as an explanation of the epidemic, because (1) there was no evidence of gastro-intestinal disorder; (2) treatment with castor oil and diet did not give relief; (3) after unsuccessful attempts to demonstrate the specific organism in the blood of six patients, in a seventh the attempt succeeded; (4) the administration of 2 grains of quinine every four hours resulted in a subsidence of the fever in all the cases. The difficulty in early diagnosis arose from the vague nature of the symptoms. Irregular fever existed in all the cases, with maximal temperatures of 100.5° to 105° F. In two cases chills were marked; two had chilly sensations; eight had headaches; in six vomiting occurred. Meanwhile 76 children, who had shared with those first mentioned the playroom near the stagnant pools, were all becoming ill. Instead of waiting for the development of definite symptoms in these 76 children, the house staff administered to each child a daily dose of 2 grains of quinine; as no benefit resulted the dose was raised to 6 grains; recovery followed in every case.

Susceptibility of Children to Malaria.—This is well known, Dr. Freeman said, in malarial districts. In such localities, as extensive investigations have shown, infection is most common in children under one year of age. As age advances, the percentage of individuals in whose blood malaria can be demonstrated progressively falls.

Strangulated Appendix in a Child of Three Months.—Aside from the occurrence of acute fatal appendicitis in an infant, this case, reported by Dr. J. P. Crozier Griffith, showed on autopsy evidences of an earlier appendicitis from which the child had recovered. Shortening of the mesentery prevented the movement of half of the appendix, while the distal end moved without impediment; thus there resulted a kinking of the appendix, strangulation and gangrene. That inflammation follows obstruction of the lumen of this viscus is well known. Two cases previously seen by Dr. Griffith occurred in children of four years; a third case was in a child of three. In 228 cases of appendicitis reported by Fitz, twenty-two were found to have taken place in patients from ten months to ten years of age. The disease, common during adolescence, is uncommon under five years and especially rare in infants.

Persistent Laryngeal Stenosis.—Dr. Griffith reported a case which he said was of uncertain nature. After a diagnosis of laryngeal diphtheria by the family physician, the case failed to show any exudate: cultures made on the seventh and ninth days were negative. The patient was discharged after twelve days, but returned with a similar attack seven days later. Intubation gave relief. The patient, a child of twenty months, then developed and in due time recovered from pneumonia, subsequent to which another attack of laryngeal stenosis occurred. Five members of the same family have such attacks, and in every case the stridor persists night and day.

Diagnosis from Laryngismus Stridulus, etc.—The attacks differ from laryngismus stridulus in their persistency. Similar attacks have been known as the result of pressure by a tuberculous gland; but here the insertion of a tube would not have given relief. Pressure on the pneumogastric would produce only unilateral signs. Papilloma of the larynx sufficient to produce such stenosis would surely have been revealed on examination. Cultures excluded diphtheria. Acute laryngitis with spasmodic symptoms does not, as a rule, cause stridulous respiration for more than a day or two. In this case there was present at the outset a congestion of the laryngeal mucous membrane; there was a neurotic family history, and while a pronounced rachitic head was the only evidence of rachitis present, the latter element would have to be considered.

Edema Below Glottis.—Dr. B. K. Rachford had seen several cases of persistent laryngeal obstruction due to chronic edema located below the glottis. Tubes had to be left in place for several weeks. In one case a period of relief from laryngeal symptoms coincided with marked diarrheal trouble, so severe as to cause a loss of four pounds in a week. Probably there was some relation between this severe diarrhea and the temporary subsidence of the edema below the glottis.

Antitoxin in Doubtful Cases.—Dr. T. M. Rotch remarked that even where cultures failed to show the Klebs-Loeffler bacillus, and where no clinical symptoms of diphtheria could be made out, it might be wise to administer antitoxin. It is a common occurrence to get relief by means of antitoxin in cases where a positive diagnosis of diphtheria by bacteriological means has failed.

The Place of Cereals in Infant Feeding.—Dr. Henry D. Chapin's exhaustive paper at-

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tracted marked attention. Dr. Chapin said that the chemical analysis of milk is not the only scientific basis for the comparison of one milk with another. It is essential to study carefully the behavior of the milk in the digestive tract. Cow's milk and woman's milk were intended by Nature for different digestive systems, and mere percentage modification of one does not make it the equal of the other for digestive purposes. Inasmuch as cow's milk forms solid curds and woman's milk flocculent curds, the curds of cow's milk intended for infants should be broken up mechanically. Cereal gruels mechanically break up curds of cow's milk, and their use is entirely rational. It is often advisable to make the standard diluent a digested gruel, as this not only breaks up the curds, but it exposes a surface of milk proteids and furnishes a certain amount of nourishment that is at once available for carrying on the work of digestion, taking the place of a part of the soluble proteids. Also, it furnishes a satisfactory substitute for milk when the latter must be withheld for a few days. A great variety of food can be supplied to an infant by means of digested gruels. The expense is trifling, and the tendency is to get back to milk feedings as soon as possible, and not to keep on indefinitely with a diet of carbohydrates, as when most infant foods are used.

The Separation of the Whey Proteids.—Dr. Rotch, who has heretofore maintained that a finer coagulum is not obtained by the use of barley-water, said that he had modified his views; starch in proper percentage does give a finer coagulum, as recent experiments at the Massachusetts General Hospital showed. But it is not at all necessary to give starch for this purpose. A more efficient measure is not to give the whole proteid of milk, but to separate the whey albumins, and to increase their proportion in the modified milk administered. By this means we obtain a finer curd than results from the use of the whole proteid plus barley water.

Necessity for a Classification of Infants.—Dr. Koplik, from a clinical viewpoint, emphasized the need of separating healthy children from sick children in considering problems of feeding. Furthermore, infants, acutely ill, must be distinguished from those chronically ill. In healthy infants it is rarely necessary to do more than to give a modified cow's milk, corrected as to percentages. In acutely sick infants no milk is satisfactory; but if here dextrinized gruels be added, the infants increase in weight and diarrhea ceases. In the chronic cases there is a prolonged intestinal toxemia. No matter what modification of milk is used the intoxication proceeds. Keller has attempted to dextrinize milk without the addition of a cereal, but concludes that the latter ingredient is essential. The author does not advocate the use of dextrinized gruels in all cases, however. The individual intestine calls for consideration. Dr. Chapin's method of acting on milk has given excellent clinical results.

Dr. L. Emmett Holt called attention to the importance of radical changes of diet for the relief of intestinal symptoms in infants. Minor alterations in percentage he believes to be of slight relative importance. The ordinary practitioner's error is not a failure to change from one per cent. proteid to three-quarters per cent., or vice versa; it is a gross error, a failure to see things radically wrong. When a baby is persistently sick on starchy foods, take him off that diet altogether and he will do better.

Dr. Winters maintained that the relative proportions of fat and proteid were of far greater importance than the actual percentage of proteid used. A baby will get ill if given 3 per cent. fat: 1 per cent. proteid; the baby will recover when the proportions are altered to 3.50 : .50 or 4.00 : 1.00.

Dr. Saunders would not say that cereals were essential in dieting normal cases; experience, however, had convinced him that in the sick diet they were invaluable.

Amaurotic Family Idiocy.—Dr. A. C. Cotton found 36 recorded cases of amaurotic family idiocy. The name was suggested by Sachs. In its symptomatology the constant findings are to be differentiated from those which may or may not be present. The former include, in the early stages, idiocy, changes in macula lutea, paralysis; early death is common. Amaurosis is always present. In the absence of ocular symptoms a case could scarcely be diagnosed. The inconstant nervous symptoms embrace nystagmus, strabismus, spasticity, paralysis, tremors, exaggerated reflexes, hyperacusis, hyperesthesia. The etiology of the condition is still sub judice. No vascular or inflammatory changes have been found. Hirsch's theory of infection derived from mother's milk is somewhat favored by Jacobi, but in the two cases of Sachs the children were not breast fed.

Clinical History of a Case.—R. F., two years of age. Referred by physician as a case of rachitic malnutrition. Father's cousin's child died in convulsions at 20 months; was blind; never able to sit up. No consanguinity in parents; no specific history. Birth and gestation normal. At 6 mos. had bronchitis; no exanthem. First tooth at one year. Could stand with support at nine months; later muscular disability developed. Examination showed head measuring 19 inches: blank expression: pupils unequal; convergent strabismus; high arched palate: unable to hold head up; claw hands: spasticity in extremities; extremely sensitive to sight and touch; nystagmus. General convulsions occur, during which hands turn inward: each spasm lasts 15-60 seconds, followed by moaning. After 8 to 10 convulsions irritability disappears;

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rest restores the convulsive tendency. The fundus showed normal disks, choroidal rings distinct and normal. The chief feature of the eye-ground was a brownish disk occupying region of macula, surrounded by a whitish zone, and densest at its center. The patient had difficulty in swallowing; this constantly increased, resulting in inanition and death.

The Little Finger of the Mongolian Imbecile and of Normal Children.—Dr. J. Park West of Bellaire, O., having had his attention called to the outward bowing of the little finger, said to be characteristic of the Mongolian imbecile, examined the little fingers of 605 children (296 males and 309 females), the ordinary children of an industrial community which included a mixture of nationalities. He found that 118 had straight little fingers, 179 fingers slightly curved, 199 distinct curvature, and 109 marked curve. The curve in the last group corresponds to what has been regarded as the peculiar possession of Mongolian imbeciles. In mental capacity the four groups of children are indistinguishable. On the other hand, Dr. West has seen 9 Mongolian imbeciles, and only one of these showed markedly curved little fingers; the fingers of the remaining 8 were exactly like those of the other three groups of normal children.

Maternal Impression.—A report by Dr. B. K. Rachford described a case in which stitch scars, resulting from an operation for appendicitis on a woman during the third month of her pregnancy, were reproduced in her child, being first noticed in the child when the latter was a year old. Dr. Rachford saw the child at birth and treated it during its first year for slight ailments. From the twelfth to the eighteenth month the marks increased in distinctness, and have since remained at a standstill. Dr. Rachford's belief is that the case is an authentic one, and that the marks may be the result of the tension on the stitches in the mother, who vomited violently for several days after her operation.

Pathological Anatomy of Cretinism.—A cretin aged six years, was treated by Dr. Frederick A. Packard and Dr. A. Hand, Jr., with thyroid extract, beginning with 2 gr. doses of the extract and gradually diminishing the dose to ¼ gr. During this time the patient lost in weight but gained height and improved mentally. While under treatment the patient developed high temperature, emaciation and anemia and died with signs of an acute illness. Autopsy showed the intestinal lesions of typhoid fever. The necrobiotic changes in the liver were more pronounced than are usually found in similar cases of typhoid in normal individuals. (Dr. Packard asks whether cretinism may not diminish vital resistance.) Of special interest in the case was the marked calcification of the arteries of the thyroid gland and the increase in the size of the posterior lobe of the pituitary body; this posterior lobe, moreover, resembled the anterior in structure, a condition which other observers have likewise noticed. The epithelial cells in the thyroid gland were abundant but varied greatly in size and the alveoli were marked off distinctly by fibrous tissue. Colloid was relatively deficient; where not wholly absent the masses were small. The changes found in other organs were such as might be attributed to the fatal febrile affection rather than to cretinism. In the skin, however, lymphoid infiltration of the corium was noted; islets of lymphoid tissue were found, especially around the ducts of the sweat glands. Possibly this localization was due to the excessive action of the sweat glands caused by the administration of thyroid extract.

Peculiarity in Hands of Degenerate Children.—Dr. Koplik presented to the Society two casts of hands in dwarfs—one of them a cretin, the other an idiot but not a cretin. Attention was called to a peculiar prominence over the pisiform bone. Dr. Koplik first noticed this in cretins, but further investigation, in conjunction with Dr. I. Lichtenstein, showed that the same peculiarity exists in other types of degenerate children. The prominence is adjacent to the groove which separates the hand from the forearm; it is an abrupt eminence, which viewed from the side gives a bayonet-like appearance. A first impression was that it was due to hypertrophy in consequence of prolonged crawling on the floor; it has been seen, however, in a cretin three months old. It occurs in idiots, cretins, microcephalis. In patients presenting the appearance of cretins but having normal intelligence, this sign is absent. Dr. Koplik regards the condition as a true stigma of cretinism.

Vital Resistance in Cretins under Treatment.—Dr. W. S. Christopher saw a case of cretinism which developed tuberculosis in the course of treatment and was rapidly carried off. He has noticed frequently an elevation of temperature in patients under thyroid treatment: furthermore these children suffer much from disturbed sleep. When more than 2 grains of thyroid extract is used daily there is a marked increase in the urates eliminated and a tendency to the formation of uratic deposits.

Dr. J. Park West began the treatment of a cretin fifteen months ago; after six weeks of treatment severe bronchitis developed and was very badly borne; only the most careful nursing pulled the patient through the attack. The case reported by Dr. West several years ago has successfully passed through measles and is very hardy.

Dr. A. C. Cotton noticed in two cases that as the cretin characteristics disappeared the powers of resistance waned; both cases developed influenza, experimentally that with the

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larger doses the rise in temperature seemed exactly to correspond with the dose given. Minimum doses being resumed, temperature became normal.

Early Improvement Under Thyroid Treatment Is Not Maintained.—The rate of improvement, according to Dr. Christopher, is a diminishing one. The patients rapidly improve at first; then betterment ceases. Dr. Northrup concurs in Dr. Christopher's view. Much depends, however, on how soon the patient begins treatment; if the administration of thyroid can be begun under one year of age the results are marvelous.

Dr. Christopher saw two colored cretins—brother and sister, the former twenty-one years old, the latter younger. The boy refused treatment: the girl accepted it and grew somewhat better. Two of the most successful cases treated by Dr. Christopher began to take thyroid between 4 and 5 years of age.

(To be Continued.)

NATIONAL ASSOCIATION FOR THE STUDY OF EPILEPSY.

First Annual Meeting Held in Washington, May 14, 15, 1901.

The President, the Hon. William Pryor Letchworth, LL.D., in the Chair.

Epileptics in Foreign Countries.—A number of communications from distinguished foreign authorities were read, Professor Paul Kovalevsky, St. Petersburg, giving an account of epileptics in Russia; Professor Jules Morel of Mons, Belgium, sending a report from that country; Professor F. Kalle and Dr. T. Kalle giving accounts of the steps that have been taken for dealing with the disease in Switzerland; Professor Oskar Medin, of the Karolinska Institute, describing the conditions that prevail in Sweden; Dr. S. C. Zavitiano, president of the Imperial Society of Constantinople making a report relative to epilepsy in Turkey; Pastor Siebold on the work that is being done at Bielefield in Germany; Professor C. Mangazzini, of Rome, on the care and treatment of epileptics in Italy; Dr. Horelburg, medical deputy of the consul general in Rio de Janeiro, on the prevalence and treatment of the disease in Brazil; Dr. Secundino E. Sosa on the provisions that are being made in Mexico for the treatment of epileptics; and Mr. G. P. Gaskell, London, on the work of the recently formed National British Society for the Employment of Epileptics.

While some of the reports showed an awakening of public opinion to the necessity of adopting more systematic steps for dealing with the disease, all concurred in acknowledging the credit which was due to the United States for taking the practical lead in regard to the provision of cottage colonies and villages for the care and treatment of epileptics. In the Swedish report mention was made of the fact that a law forbidding the marriage of epileptics has existed in Sweden for over a hundred and fifty years. The report from England showed that the society which has been formed there for the purpose of assisting epileptics capable of doing certain kinds of work has met with a gratifying amount of success.

Care of Epileptics in the United States.—The most interesting papers regarding the work being done in the United States were those by Dr. Frederick Peterson, of New York, the new President of the State Board of Lunacy, and Dr. William P. Spratling, superintendent of the Craig Colony for Epileptics at Sonyea, this State. Dr. Peterson traced the history of the disease from the earliest times, quoting what Hippocrates said as to its origin and nature, and also some lines from Lucretius which he regarded as giving a particularly good clinical picture of an epileptic seizure. Dr. Spratling's paper gave a detailed account of the treatment relied on at Craig Colony, which consists of giving the colonists congenial occupation, as far as possible in the open air, regulating their diet and habits of life, and only having recourse to bromides and other drugs at severe stages of the disease. Incidentally it was mentioned that the Craig Colony has received a sufficiently large appropriation this year to provide for about two hundred additional patients. When the new buildings which have been planned are completed, the colony will have facilities for more than a thousand patients. Dr. W. N. Bullard, Boston, described the progress which has been made with the establishment of the Massachusetts State Hospital for Epileptics. Dr. Wharton Sinkler gave an account of special provisions which have been made for epileptics in Pennsylvania. General Brinkerhoff, member of the Ohio State Board of Charities, spoke of the difficulties which had been encountered in that State by those who had interested themselves in the provision of a separate institution for the care of epileptics, and of the measure of success which had ultimately crowned their efforts. The New Jersey Village for Epileptics was described by its superintendent, Dr. H. M. Week, whilst statements on the condition of epileptics in Connecticut, Illinois, Texas, Virginia and North Carolina were made respectively by Dr. Edwin A. Down, Hartford; Miss Lathrop, Chicago; Dr. B. M. Worsham, Texas; Dr. William F. Drury, Petersburg, Va.; and Mr. C. B. Denson, Raleigh, N. C.

In the course of general discussion, Dr. G. H. Knight, of Lakeville, Conn., said he thought the steps that had been taken by New York, Ohio and other States were steps in the right direction, and even if they did not succeed in curing a single case, they would assuredly do a great deal in the way of checking the spread of the disease. His experience with feeble-minded children and examination into

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their histories had proved that epilepsy was one of the leading causes in the production of offspring with mental deficiencies. There was a law in Connecticut forbidding the marriage of epileptics and the feeble-minded, and while there were persons who raised questions about the interference with personal rights which this involved, he did not think there was any room for such objections in so far as those who had become wards of the State were concerned. A small percentage of cases, those namely that were not wards of the State, were in a different position. If the increase of feeble-minded children was going to keep on increasing as it was doing, it would be found necessary to do something beyond the taking care and teaching of these classes. It would be necessary to stop the increase, for he did not believe that civilization could stand the inroads thus being made on it. Replying to the chairman, the speaker said he found only a very small percentage of cases of feeble-mindedness directly traceable to alcohol on the part of the parents.

Etiology of Epilepsy.—Dr. Robert H. Porter of Chicago, said he proposed reading a paper at the A. M. A. meeting at St. Paul supporting the old theory that epilepsy was due to the deterioration of the nerve cells and tissues of the brain and spinal column. It might indeed be said that impairment of the nutrition of the nerve cells was the common cause of epilepsy, idiocy and feeble-mindedness. This led to congestion of the brain, which was the immediate cause of the paroxysms. He had been studying problems connected with epilepsy for twenty years, and he was prepared to argue that the disease could be arrested and the patient cured. It was well known that remedies that stimulated the abdominal secretions helped to divert the brain circulation and if this could be done the spasms could be controlled. Later on in the proceedings the speaker exhibited a patient who, he contended, had been practically cured of epilepsy.

General Treatment.—Dr. William A. Polglase, superintendent of the Michigan Home for the Feeble-minded and Epileptics, said he had not much to add to the discussion of this phase of the subject. He had long been looking for such a plan of treatment as had just been described, and would like to know more about it. Personally he was unable to offer one single thing in treatment looking to cure. They were all agreed as to the general treatment both for relieving the spasms and alleviating the condition of the patients, but beyond that he was not prepared to go. He was not even prepared to say that in every case there was a disturbance of the cells in the center of the nervous system. Recently he thought he had struck upon a plan for the treatment of all epileptics, but he had an influx of thirty or forty patients, and the result of his experiments was to upset all his theories. The main difficulty with which they had to contend was that there were so many different kinds of the disease, with innumerable other cases that simulated it. He would strongly advise epileptic persons not to marry, and indeed would favor a law to prevent the union of all neurotics.

Epilepsy and Marriage.—Dr. W. N. Bullard, president of the Board of Managers of the Massachusetts State Hospital for Epileptics, remarked that before they discussed the subject in its relation to marriage it was desirable to know exactly what they were discussing. There were a great many different degrees of epilepsy. There were persons who had an attack only once a year or so, and many of these were extremely able persons—men who managed large industrial concerns, lawyers, literary men and others; and there were all kinds of patients downwards from these to the insane. In considering the desirableness of prohibiting marriage they must decide what class they were dealing with. Epilepsy again was a disease or a condition of the nervous system which might be produced by a variety of causes. It might be hereditary, or it might be produced by an injury. Therefore it might be necessary to consider whether the disease was of a kind that was likely to be transmitted to the offspring of the sufferer. One thing he had noticed was that there were many cases in which the disease commenced very early in children and yet no trace of hereditary origin could be found. On all these grounds he thought it essential that they should proceed very slowly and define very clearly what classes of cases should be prohibited from marrying.

Mr. Mack of Sandusky, Ohio, called attention to the law which had been passed in Minnesota to prevent the marriage of the mentally unfit.

Dr. James M. Murdoch of Polk, Pa., said his experience was confined to institutions for the care of the feeble-minded. Large numbers of epileptics, however, came to the institution with which he was connected, and he found that they were benefited by careful diet and regulation of the secretions. The diet consisted largely of farinaceous foods, and it was found necessary to prevent tendencies to gluttony.

Dr. Down of Hartford, Conn., spoke of the different theories that existed as to the etiology of epilepsy, and the difficulty of collecting statistics and making proper classifications of sufferers from the disease. Replying to a question put by Dr. Spratling, the speaker said that it was found in Connecticut that a large proportion of the epileptics were foreign born.

Clinical Groups.—Dr. Spratling said he had been engaged in special work among epileptics for fifteen years, and he had been particularly struck by the different developments that the disease took. If neurologists ceased making

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attempts to define the disease he thought it would make their works more valuable. There were many theories as to the cause or causes of epilepsy and plenty of data to support each of them, and yet none of them that could be entirely reconciled with each other. He approved of the prohibition of the marriage of epileptics, and maintained that the whole question of the proper way of providing for them should be dealt with by the national government.

Epilepsy among Negroes.—Mr. Denson of Raleigh, N. C., in speaking of epilepsy among the colored population, said that before the war, while negroes with fits were plentiful, the insane negro, that was the negro affected with anything like acute mania, was practically unknown. He did not know whether the fact that the latter had become common since was evidence of degeneration, or was to be accounted for by the circumstance that the negroes felt the slings and arrows of outrageous fortune in a way that they did not do when they had a protecting arm over them.

Dr. Wharton Sinkler, describing his experiences in Pennsylvania, dwelt on the necessity of having institutions exclusively for the care of epileptics instead of leaving them to be attended to in workhouses and hospitals for the insane.

New Office-Bearers.—The election of office-bearers for the current year resulted as follows: President, Dr. Frederick Peterson, New York; vice-presidents, the Hon. William Pryor Letchworth, Portage, N. Y., and Professor William Osler, Baltimore, Md.; secretary, Dr. William P. Spratling, Sonyea, N. Y.; treasurer, Dr. H. C. Rutter, superintendent Ohio Hospital for Epileptics, Gallipolis, Ohio.

The objects of the Association are: (1) to promote the general welfare of sufferers from epilepsy; (2) to stimulate the study of the causes and methods of cure of this disease; (3) to assist the various States in America in establishing a uniform system of care for epileptics; and (4) to advocate the care of epileptics in institutions designed for their special needs, where they may (*a*) receive a common school education, (*b*) acquire trades, and (*c*) be treated by the best medical skill for their malady.

NEW YORK ACADEMY OF MEDICINE—SECTION ON MEDICINE.

Stated Meeting, Held Tuesday, April 16, 1901.

E. Franklin Smith, M.D., Chairman.

Accurate Percussion Method.—Dr. George M. Converse read a paper in which he brought out a simple and accurate method of percussion of the heart, as practised by the late distinguished Professor Potain of Paris. He said that the distinctive features of the method were the use of the finger and not of Sansom's plexímeter, nor of any other form of instrument. The percussion is formed not by a series of successive strokes, but by a single stroke of moderate force and then a pause until the significance of the sound elicited can be thoroughly appreciated. The finger, as a plexímeter, is better than any instrument because it enables the examiner to judge of the consistency of the tissues below his finger and the resistance offered by them. The method of the single stroke saves the patient pain.

Alteration of Pitch.—Dr. Converse said that the alteration of pitch is much more important for the determination of the size of the heart than the occurrence of distinct dulness. This method enables the prognosis of heart lesions to be given with much more assurance than usual. In one case when the patient came under treatment the outline of heart dulness enclosed an area of about 104 c.m. Later on percussion showed an area embracing 169 square cm. The case was one of aortic regurgitation and this increase in area showed that dilation was rapidly overcoming the influence of hypertrophy in heart compensation and that the prognosis was distinctly unfavorable.

Postmortem Verification.—In eight cases Dr. Converse has had the opportunity to verify his findings. The outlines of the heart dulness and of the sternum and the suprasternal notch and both nipples were marked on the chest wall. Over this a piece of transparent paper was placed and the outlines transferred to this. After the death of the patient, this was replaced on the chest, and various parts of the outlines marked by piercing the chest walls with large pins. In all of the eight cases the outline of dulness, as determined by percussion, represented the actual outlines of the heart beneath the chest wall.

Percussion in Deep Chests.—Dr. Judson Daland said in discussion that the points of Potain's method which are especially useful are the single stroke of the finger and the appreciation of the difference in pitch between two successive strokes, and then the looking for shades of difference in pitch rather than disctinct progress from resonance to actual dulness. These points, of course, are not entirely due to Potain, but are in use by most accurate diagnosticians. In the ordinary normal chest, it is not difficult, as a rule, to map out accurately the area of the heart. In deep chests, however, with a long antero-posterior diameter, the difficulty becomes very marked. Even before true emphysema exists, this difficulty adds very greatly to the indefiniteness of percussion investigation.

Ausculatory Percussion.—Dr. A. H. Smith said that for accurate diagnosis, especially in cases with precordial tenderness, the method of ausculatory percussion is extremely helpful. There is a notable distinction in the dulness of different organs furnished by this method. There is a distinct quality of liver dulness that differentiates it easily from heart dulness. It is possible to separate the outlines of liver and heart dulness very accurately.

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Arterial Spasm and Heart Dilatation.—Dr. Judson Daland of Philadelphia read a paper on a case which seems to illustrate very clearly the effect of arterial spasm in producing dilatation of the left heart. The patient is a girl, ten years of age, who had been robust and vigorous. She had suffered from measles and diphtheria, but none of the other diseases of childhood. She had never had any heart trouble, nor suffered from chorea, nor rheumatism, nor growing pains. Some time before she came under observation she had been bitten by a cat. The wound healed slowly, but was completely healed after about three weeks. About seven weeks after the cat bite, she came to the dispensary of the University of Pennsylvania, complaining of pains in the head and back. At first it was thought that there had been some slight septic condition. The true cause of the symptom was that the child had the habit of taking a certain table sauce in excess. She was also very fond of salt and ate it to excess. She had an older sister who indulged in the same peculiar taste. Both of them preferred to eat oranges with salt rather than with sugar. Because of their fondness for it the mother had given up putting the sauce on the table, but bought a bottle at Christmas-time. The child poured three ounces of the sauce into a cup and ate it on bread. Very shortly afterward she was taken with pains in the epigastrium, there was some vomiting and diarrhea and there was severe thirst and some symptoms of collapse. For some time afterward she suffered from insomnia. About a week later, she took another dose of the sauce and this proved even more severe in its effect. The child had two convulsions in each of which she was unconscious and they were marked by opisthotonus. After the convulsions there was a period of coma followed by long, deep sleep. Some days after this an anasarcous condition developed. When she was brought to the clinic she had a temperature of 99.5° F. and a pulse of 110, the specific gravity of her urine was 130 and one-fourth of it, by bulk, consisted of albumin.

Heart Symptoms.—The second sound at the aortic cartilage was very much accentuated, there was a systolic murmur at the apex that was transmitted into the axilla and could be distinctly heard. The apex beat was distinctly lower and to the left of its normal position. The radial artery felt like a wire. It was thin, but hard. When the pulse was obliterated by pressure, the arterial walls could still be felt, showing that they were thickened. The symptoms were those of hypertrophy, but the conclusion reached was that the condition was one of acute dilatation.

Effects of Treatment.—Under rest, with an absolute milk diet and the free administration of Basham's mixture, improvement began almost at once. The edematous condition gradually disappeared and a distinct diminution in the force and area of the apex beat could be noticed from day to day. Finally the apex beat came to occupy its normal position again. When the patient came into the hospital, she was passing only about twenty ounces of urine a day, containing a large proportion of albumin. When at the end of about three weeks, she was discharged she was passing from twenty-five to thirty ounces a day and all the symptoms had disappeared.

Cayenne Pepper as the Toxic Factor.—A detailed analysis of the sauce was not obtained, but it is known to contain a large amount of Cayenne pepper and certain other strong spices. The original symptoms point to the existence of an acute catarrhal gastritis with the absorption of toxic material from the intestines. These led to an extreme congestion of the kidneys. As a result of this congestion some uremic symptoms developed. The toxins in the blood acted locally on the blood vessels and on the lining of the heart, causing intense irritation and some local thickening. The irritated and thickened arteries were especially liable to take on a spasmodic condition. The spasm of the arteries led to dilatation of the left ventricle and the murmur was due to this dilatation. When the left ventricle is dilated the capillary muscles are displaced from their usual position, they do not act simultaneously and this failure of consentaneity leaves a chink or space in the leaflets of the valve. This causes leakage and explains the temporary murmur.

Mitral Leakage Conservative.—This mitral leakage is really a conservative effort on Nature's part. It relieves the strain on the left ventricle, which in its dilated condition and acting against spasm in the arteries would be unable to empty itself by contraction only for the relief afforded by the opening at the mitral valve. This is really Nature's incipient compensation for the mechanical difficulties against which the heart has to work.

High Pulse in Scarlatina.—In discussion Dr. William H. Thomson said that Dr. Daland's communication was of interest from many standpoints. There seems no doubt that in certain infectious diseases, as, for instance, scarlet fever and rheumatism, complete acute dilatation of the heart depends at times on spams of the arteries. That this spasm exists there is no doubt. A high tension pulse is one of the best diagnostic signs of scarlet fever. When called to see a child suddenly wakened from its sleep with some vomiting, a high fever, slight sore throat, the presence of a small artery with high tension, one may consider these symptoms almost pathognomonic of scarlet fever. This small contracted artery may help to the acute dilatation.

Internal Arterial Spasm.—Dr. Thomson called attention to the fact that at times when there is no spasm of the external palpable arteries, there may be spasm of internal arteries especially in the splanchnic region. It is evident that in many cases some sort of vasomotor storm in the splanchnic area leads to spasm of the arterioles and so interferes with the normal course of elimination.

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Atheroma Without Hypertrophy.—There have been a number of cases reported now in which extensive atheroma of arteries existed without the development of hypertrophy of the heart. This means that there is no necessary connection between the two pathological conditions. It would seem that too much stress has been laid on the physical factor in the production of cardiac hypertrophy. The mere fact of the arteries losing their elasticity is not enough to cause the heart to hypertrophy. At an insane asylum in England, 194 cases of atheromatous arteries were reported, in only four of which hypertrophy of the heart existed. On the other hand in the autopsies at Charing Cross Hospital 80 per cent. of the cases with atheromatous arteries have heart hypertrophy. The difference between the lives of the two classes of patients indicates at once the reason for this. Nearly all the admissions at Charing Cross Hospital are of working people. Heart hypertrophy is due to strain. Strain also produces arterio-capillary fibrosis. Atheroma develops especially on the parts of the arteries where the strain is greatest—on the outer portion of the arch of the aorta, for instance, and where arteries branch and so are subjected to special strain. The artery in the body which is most liable to atheroma is the one most subjected to muscular influences. This is the anterior tibia. On the other hand the pulmonary artery is very rarely atheromatous and never except when there is mitral stenosis. The question of the exact point in the arterial system at which the strain originates has long been under discussion. The arteries are especially affected. Their muscular coats are marked by increase in size and sclerotic conditions easily develop in them. It is clear, then, that the source of the strain is at some point beyond the arteries. It undoubtedly exists in the capillaries. The network of minute vessels connecting veins and arteries is especially liable to be affected by toxins and the minuteness of the vessels enables them to add greatly to the circulatory tension, when affected sufficiently, to become spasmodically contracted. Thoma showed experimentally on recent dead bodies that the arteries would stand considerable pressure. He was able to inject seventeen liters of salt solution before the exudation of fluid into the tissues. Where atheromatous conditions existed, however, four liters of salt solution were sufficient to produce edema. The normal resisting power of the arterial system was thus reduced to one-fourth its capacity.

Cause of Capillary Resistance.—The primary cause of the rise in blood-pressure which is due to the capillary resistance is some toxin substance in the circulation which interferes with the normal osmotic changes between the blood and the extravascular fluid. Syphilis, alcoholism, plumbism and the poisons of the infectious diseases act on the interior of the capillaries, rather than directly on the larger blood-vessels.

Treatment of Incipient Capillary Fibrosis.—The great remedy for the neutralization of these toxic substances in the blood is undoubtedly oxygen. The conditions that finally lead up to fatal degeneration in the circulatory system can be modified favorably by oxidation. For these cases the best antitoxin is fresh air, day and night. Nothing better than this can be advised and no method of drug treatment can replace it.

Angina Without Lesions.—Dr. Beverley Robinson said that, as a rule, when angina pectoris is considered, spasm of arteries is thought of and the paroxysms of the disease are attributed to a spasm of the coronary arteries with ischemia of parts of the heart wall. There are certain cases, however, in which death takes place sometimes after a series of well-marked attacks of angina pectoris, sometimes after a single attack in which the sclerotic condition of the coronary arteries is thought to exist, and yet at autopsy none is found. No reason for death can be found in some of these cases. They remind one of another series of cases in which what is probably an ischemic condition of cerebral centers simulates apoplexy. The diagnosis of apoplexy may even be made. Death may occur and at autopsy nothing in the shape of a definite hemorrhage be found. The only conclusion in such cases is that the apoplectic condition is due to spasm of the cerebral arteries.

Causes not Physical.—The physical factors that produce heart disease have been deemed too important, and it is not realized that a large number of chemical and biological factors enter into the problem. The assumption that more is known about heart disease than is really the case had led to a good deal of credulousness as to specific cures for heart troubles. There seems no good reason to think that Nauheim, for instance, possesses any specific for heart trouble and yet cases are benefited after failure to find relief under other treatment. Suggestion plays an important rôle in these cases and, undoubtedly, sometimes where lesions are supposed to exist, there is only some passing condition that an improvement of the general system help very materially.

Myocardial Degeneration.—Dr. M. Manges said that high tension due to spasm in the arterial system undoubtedly is a very important factor in the production of myocardial heart dilatation. It must not be forgotten, however, that this dilatation is helped on by myocardial changes which are produced by the toxins of the infectious diseases, or by other toxic substances that occur in the blood. Just as the coats of the arteries are affected, and among them the muscular coat, so the inner lining of the heart and the myocardium is affected. Besides this the arteries of the heart themselves are affected and this produces myocardial changes. When the heart vessels are not affected changes in the heart are infrequent. Arteriosclerosis is almost invariably toxic in origin and is not merely due to physical factors. Schroeter showed by weighing

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the heart and sections of the heart that often, and when extensive arteriosclerosis existed, there was no hypertrophy either of the whole heart nor of parts of it.

Unity of Circulatory System.—Dr. Andrew H. Smith said that the arterial tree must not be thought of as something distinct from the heart, but as really a continuation of the heart. Every part of the arterial system has a muscular coat and this acts continuously and successively in the production of the blood flow. The contraction begins in the auricle, continues to the ventricle, and spreads from there to the aorta and its branches down to the smallest of them. Every bit of this contraction requires the exercise of nervous power. The question of arterial spasm takes on a new aspect because of the changes taking place in the myocardium, because they are taking place in other parts of the arterial system and all of these parts are joined not only by sympathy and physical factors, but by continuity of structure and community of function.

Sphygmographic Tracings.—Dr. Van Santvort said that the sphymogram, when properly used, enables one to recognize changes in blood-pressure that would otherwise remain unknown. The second sound, although often spoken of, is no index of arterial tension, or of the strength of heart contraction. In pneumonia the second sound is often strong out of all proportion to the normal, but is not a sign of heart force, but of difference of pressure on the two sides of the heart valves.

Evidence from Single Case.—In closing the discussion Dr. Judson Daland said that the reason for giving the case he had described in so much detail was that it seemed to set forth the problem of heart dilatation in its simplest terms. The arterial affection was due to a simple toxic substance and not to the complicated conditions which exist in infectious diseases. It occurred in a child in whom the wear and tear of the arterial system had been very little and who had been reasonably robust before the illness. The case also seemed to throw light on the occurrence of uremia. Uremic symptoms differ in every case and undoubtely the poisons which caused the symptoms were very different in different patients. This case seems to emphasize the fact that there is a marked difference between the effect of inflammatory vascular changes and pure dynamic changes. Undoubtedly Dr. Thompson's observations, which seem to point to internal arterial spasms, will be confined and will throw light on the origin of various heart symptoms. The obstruction which produces high tension in the circulation seems undoubtedly to be situated in the capillaries.

Long Island Climate.—Dr. LeGrand N. Denslow said that the nearest true maritime climate in New York is situated on the eastern part of Long Island. A series of observations has shown him that the climate of this part of the island is less liable to change, is warmer in winter and cooler in summer, and has more sunny days than almost any other part of the United States and than any place along the Atlantic Coast. It seems sure that at times heat from the Gulf Stream is carried to Long Island and modifies the weather. The mean summer temperature is that of northern New York. The mean winter temperature is between that of New York and Washigton. The ocean retards the progress of the seasons and hence there are less sudden changes of temperature. There is less range of daily temperature and the midday heat is tempered by an ocean breeze. The south is particularly favored in this way. The hills and timberland lying back of this southern shore protect it very well in the winter time. Block Island represents the eastern end of Long Island very well. According to the Government Reports there is less range of temperature on Block Island than almost anywhere else in the country. There are only seven degrees of difference between day and night. The first frost on the eastern end of the Island comes later by three weeks than in New York City. It is wonderful what a number of sunshiny days there are in eastern Long Island. Near the ocean one would almost naturally expect rather cloudy, dark weather. As a matter of fact the eastern and southern shore of Long Island compare very favorably with the most sunny parts of the United States. There are 100 more sunny days than in New York City, and 150 more than in north central New York, at Rochester, for example. It is a matter for surprise that this state of weather affairs should exist. It is hard to account for it. But the fact remains that the eastern end of long Island makes an exceedingly favorable climate for invalids. At a distance of only three hours from New York there is a very favorable place for patients suffering from tuberculosis, or from heart, or kidney trouble. While we hesitate to send people to distant parts of the country there need be no hesitation to advise residence at so short a distance from home.

BOOK REVIEWS.

A Manual of Practical Hygiene for Students, Physicians and Medical Officers. By Charles Harrington, M.D., Assistant Professor of Hygiene in the Medical School of Harvard University. Lea Brothers & Co., Philadelphia and New York.

In the great annual output of medical works it is a rare thing to find one that startles the prosaic reviewer into enthusiasm. It was given to Huxley to write science as literature, and something of that same vivifying touch of realism and interest in actualities is found in the pages of Dr. Harrington's Manual.

It is impossible to dip here and there in the

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volume, one is fascinated into steady reading, and is made aware of the touch of a man who knows his facts at first hand from personal observation, and who has not compiled them from other text-books. There is moreover none of the musty laboratory atmosphere that obscures rather than enlightens, so prevalent in other works on hygiene. We miss, with a sense of relief, the endless technical bacteriological discussions and the pages of statistical tables which form so large a part of the scholastic treatises on this subject.

Foods, Air, the Soil, Water, Habitations, Sewage and Garbage Disposal, Disinfectants and Disinfection, Quarantine, Military Hygiene, Naval and Marine Hygiene and Tropical Hygiene, Hygiene of Occupation, Vital Statistics, Personal Hygiene, Vaccination and Disposal of the Dead are the subjects treated.

In all of the chapters the author has gone directly into the heart of the subject-matter, and as a consequence there is no padding in the work. It is all solid material. We congratulate the author on giving such an excellent manual and recommend it cordially to our circle of readers. We desire moreover to suggest that because of its simple and straightforward style no better book could be recommended by a physician to his patients who have a leaning toward acquiring that "knowledge" which is a "dangerous thing" from other sources not so trustworthy.

A TREATISE ON MENTAL DISEASES. Based upon the lecture course at the Johns Hopkins University, 1899, and designed for the use of practitioners and students of medicine. By HENRY J. BERKLEY, M.D., Clinical Professor of Psychiatry at the Johns Hopkins University, Chief Visiting Physician to the City Insane Asylum, Baltimore. D. Appleton & Company, New York.

THE prefatory note to this book begins with the following sentence: "The absence from English medical literature of a comprehensive, practical work on mental diseases—one adapted to the needs of the busy practitioner as well as to those of the student of psychiatry—has led the writer to prepare this treatise embodying a consideration of all the principal forms of psychical disturbance." This statement is not justified in the least and it is a pity that such an excellent presentation should, at the outset, imply such an aspersion on English and American psychiatry. That Dr. Berkley has given us the best modern English treatise we gladly admit, but the problems of psychical disturbance have been written on by others both "practically" and "comprehensively." There is, we believe, no domain in medicine which is capable of receiving so many different interpretations and it is to the author's credit that he has been able to arrange and epitomize, and at the same time to bring some order into the chaos of modern German psychological psychiatry.

The work has many excellent points. It is, we believe, almost alone in its complete study of morbid anatomy, as revealed by the histological technic of the last decade, thus supplementing Bevan Lewis' excellent treatise. The characterization of the clinical types of insanity is extremely well done and forms an important contribution to American psychiatric literature. We confess to a certain sense of being adrift on this modern sea with so many of the familiar landmarks ruthlessly destroyed, yet out of the new order of things a closer grasp of vital principles is inevitable.

One of the most striking parts of the book is the statement with regard to the unfavorable prognosis of most mental diseases. When Kraepelin stated that among 1,000 cases of acute mania he had observed only one in which the symptoms did not recur, most psychiatrists were inclined to doubt the value of his statistics. Now that the discussion of the subject has been carried on for some time, Berkley is in a position to announce the conclusions generally accepted in the matter. Simple mania, he says, is an exceedingly rare form of mental disease and therefore, one should be cautious in making a prognosis of final recovery. Relapses after a number of years, when stability is apparently assured, are frequent, as every one interested in mental medicine knows only too well. With regard to melancholia he says, "Relapses in this form of mental disease are very common, perhaps one-half of those affected falling back at some period, from a few weeks to years."

Professor Berkley's remarks on treatment are especially complete and practical. Many of his therapeutic hints are the result of his own experience.

THE OPTICIAN'S MANUAL. A Treatise on the Science and Practice of Optics. By C. H. BROWN, M.D., Graduate of the University of Pennsylvania; Professor of Optics and Refraction, etc., etc. The Keystone, Philadelphia, Pa.

FOURTH edition in four years is evidence the book fills its own place. Careful reading of this shapely, readable manual shows that it is couched in language plain and intelligible. No attempt is made to be scholarly. The aim is instruction by means of the simplest language that will convey it elegantly. The author lucidly treats all the necessary matters pertaining to the optician's complete equipment. In his chapter on "Outfit Required," other books of allied nature are named, which, if all are carefully read, will carry the reader beyond the merely practical and elementary into a more or less masterful acquaintance with these subjects. This applies especially to the scientific work of Dr. M. Tscherning. It was a thoughtful thing to append the glossary But it is to be hoped those who could read this book with interest and a desire to master it and read its congeners, would desire to have a larger dictionary of terms than this and a fuller consideration of them. But the book reads well and accomplishes its aim, which is high praise.

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THE MEDICAL NEWS.

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ADDRESSES.

THE PRESIDENT'S ADDRESS.[1]

BY CHARLES A. L. REED, A.M., M.D.,
OF CINCINNATI, OHIO.

IN approaching the discharge of my duties as presiding officer of the fifty-second session of the American Medical Association, I beg to express my appreciation of the generous suffrages by which I have been called to a position of such conspicuous honor. This appreciation becomes all the more pronounced when I reflect upon the magnitude and achievements of this great national body and upon the luster of the distinguished men who have presided over its deliberations. This thought brings me to the first duty of the occasion, and that is, officially to bring to your attention the fact that since our last reunion three of my most illustrious predecessors have been called from their worldly activities to the realm of rewards—Alfred Stillé, Lewis A. Sayre and Hunter McGuire, each a former President of the Association, died within a single week. Their lives were known of men, their records are ornaments of our annals, and their achievements are their eulogies. They labored zealously and with beneficent results, not alone in the scientific field, but in behalf of an organized national profession; and to guard zealously the splendid legacy which they, among others, have left us, must be one object of our labors upon this auspicious occasion. The hope is indulged that steps may be taken to procure suitable portraits of these and of other deceased Presidents of the Association, to be placed in some safe gallery until such time as the Association may be able to transfer them to its own Temple of Fame. I recommend that suitable formal action be taken on this occasion relative to the life, distinguished services, and the death of these lamented *confrères.*

Foreign Relations of the American Medical Association.—The American Medical Association accredited delegates during the last year to several foreign medical conventions, notably the International Medical Congress at Paris, the Dominion Medical Association of Canada, the Mexican National Association and the Pan-American Medical Congress at Havana. To each of these organizations the American Medical Association sustains relations of peculiar intimacy. As one of the great scientific nations of the earth, the United States is naturally an integral part of the International Medical Congress. This Association, by a resolution presented by your present executive officer took the initiative in 1891, in organizing the Pan-American Medical Congress. The first reunion of that Congress was held in Washington in 1893, under the presidency of the late lamented Dr. William Pepper.

Fiscal Affairs and the Journal.—It has passed into unwritten law, born of the gradually developing features of our organization, that your President shall restrict his annual address to a discussion of the affairs of the Association and to the great object to which, by the terms of its Constitution, it stands consecrated—"the common interests of the medical profession in every part of the United States." In compliance with this rule, and realizing that I am leaving scientific questions to be presented by orators appointed for that purpose, I have pleasure in calling your attention to the satisfactory condition of the affairs of the Association, as indicated by consolidated report of the Treasurer of the Board of Trustees. From it you will observe that under the judicious management of your Board of Trustees you had a cash balance at the end of the last fiscal year of $31,004.67, being an excess of $3,696.66 over the preceding year. Your plant has been increased in value to the amount of nearly $10,000.00, and the net profits of the *The Journal* amounted to nearly $14,000.00. You will be gratified to realize that, in addition, you have safely invested as part of a fund with which to buy a home for *The Journal* and for the Association, the respectable sum of $25,000.00. If, however, you have occasion to feel satisfied with the normal condition of your finances, you must contemplate with pride the rapid increase of your *Journal,* in quality, size, circulation and influence. The average weekly circulation grew, during the last fiscal year from 13,672 to 17,446, and I have added pleasure in informing you that, since the period covered by the report, the weekly circulation has grown to 22,000 copies. For the accomplishment of these splendid results, I feel that you will join me in hearty acknowledgment, not only of the sagacious management by the Board of Trustees, but the tireless industry and the discreet direction of our accomplished editor, Dr. George H. Simmons.

Scientific Work of the Association.—It must be acknowledged that great as has been the progress in this particular, too much of the time of our general sessions is yet devoted to the consideration of matters which might, with propriety, be relegated for final action to a similar body. It would redound largely to the interest of our annual session if the general membership could be entertained and instructed at our general meetings by exercises of a more purely scientific character, of such broad nature that they should not be re-

[1] Abstract of President's Address, delivered at the Fifty-second Annual Meeting of the American Medical Association, held at St. Paul, Minn., June 4-7, 1901.

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stricted to any of the sections. A reform in this particular will be a long step in the direction of progress.

Congressional and State Legislative Affairs.—The American Medical Association, during the first fifty years of its existence, exerted relatively little influence upon legislation, either state or national. Since the Standing Committee on National Legislation and the National Legislative Council of delegates from the state societies have been established, and have become coöperative, there is some evidence that the voice of the profession is heeded at Washington. The experience of the splendid committee of the Association, acting in concert with the National Legislative Council during the last year, has, however, shown the serious necessity for more thorough organization in protecting the interests of the profession, and the interests of society as represented through the profession. In every war known to history the deaths from preventable diseases have exceeded those due to battle. At no time has hygienic science been so resourceful as at present in preventing disease. A law which fails to give to armies, either in peace or in war, the fullest protection by the application of the latest scientific developments at the hands of specially trained medical men is unjust to the soldier, to society, and to the medical profession. In view of these facts, the army reorganization law of the last Congress was inexplicable and inexcusable. The cause of failure on the part of this Association to procure legislation by the Congress—and with the exception of preventing the passage of the Antivivisection bill last year and securing the enactment of the Quarantine bill this year, our recent efforts must be recognized as failures—I say the causes of our failure are properly subjects for careful consideration. I have examined the records of the Association from the date of its organization, and have been profoundly impressed with the fact that memorials, resolutions, or even more definite propositions addressed to the Congress have, for the most part, represented the views, or rather the impressions, of the individual members proposing them. In view of the fact that, after all, the argument of votes is the only one which appeals effectively to the average Congressman, it behooves this Association, in its efforts to conserve the interests of the profession and of society, to put itself in position to influence the largest number of votes. Every physician, therefore, should, in a perfectly respectable sense, become an active working politician. This subject, however, is of such breadth and of such depth that it may be well for us to pause at this juncture long enough to consider, from the standpoint of fundamental facts, the relationship of physicians to each other, and of the medical profession in the aggregate as an integral factor in society.

Voluntary Regulations of Medical Practice.—A half century ago the American Medical Association was organized with the avowed object of having its members represent and take cognizance of "the common interest of the medical profession in every part of the United States." It sought to cultivate medical knowledge among its members, to elevate the standard of medical education, to promote the honor and influence and interests of the medical profession, and to enlighten the public concerning the relation between the medical profession and society. Emulation and concert of action in the profession and friendly intercourse among those engaged in it were additional aims of the founders of this great body of representative American medical practitioners. A constitution, by-laws and certain rules of conduct were adopted. The Constitution provided for a delegate body, delegates being accredited from recognized medical societies, medical schools and eleemosynary institutions. The rules of conduct prescribed in detail the deportment of a physician, the deportment of the patient, interdicted the licensure of sectarian physicians, and proscribed from consultation those whose practice was based upon an exclusive dogma. The influence of the new Association was extended chiefly through the avenues of the various state societies, many of which adopted the rules of conduct that had been prescribed by the newly formed national body as the basis of affiliation. Several of the state societies, notably those of Massachusetts, Rhode Island and Mississippi, finding either that the prescribed rules of conduct were not suitable to their respective local conditions, or feeling that they were sufficiently in touch with the ordinary forces of civilization to require no such formulæ, never adopted the rules of conduct prescribed by the national body. The medical association of Alabama adopted the rules with rather a naïve proviso that somebody be appointed to call attention to such of the special teachings of these rules "as may seem to require elucidation in view of special circumstances and conditions." Other state societies adopted more or less modifying resolutions, but the general spirit of ostracism and aloofness was maintained during the succeeding three decades. The result of this movement was immediately salutary: it developed an *esprit de corps* in the great body of the profession: it gave an authoritative definition to medical education, and it created a strong and influential national body within the profession. At the same time, however, it became apparent that the organization did not possess the necessary inherent strength to accomplish its avowed object to regulate the practice of medicine. As time passed schismatic medicine grew apace, its colleges multiplied, its practitioners appeared all over the country, exemplifying that law that always makes the blood of the martyrs the seed of the church. Quackery of the most flagrant character was found everywhere, and society was unprotected from its ravages, while the inability of a voluntary unchartered organization to enact and to execute plenary laws was reduced to a demonstration. The medical profession, as an organized body, discovered that its relation to the commonwealth was, as the result of its own

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proscriptive policy, scarcely more intimate or more influential than at the beginning of the thirty years' hopeless experiment.

Effective Legislative Control of Medical Practice.—The era of effective legislative control of medical practice came as the natural reaction from the demonstrated failure to accomplish the same result through voluntary organization; but it came as the result of the sentiment which had been propagated largely through the influence of this Association. The representatives of progressive medicine, turning from the National Association invoked the aid of their respective state societies in taking up the question with their respective legislatures. The profession in each state, however, recognizing its own local conditions, proceeded in its own way to attend to its own business. The very earliest attempts to secure state legislation revealed the fact that the so-called irregular practitioners, under the stimulus of ostracism and the fostering care of public sympathy thereby induced, had become so numerous and so influential that in the majority of states nothing could be done without their cooperation. It was no longer a theory, but a condition with which the real reformers were confronted—and they met it. California, in 1876, through its regular medical society, took the initiative. After conferences with the representatives of the sectarian societies, and after securing their coöperation, a law was procured creating a licensing board composed of representatives of both the regular and sectarian schools of practice. Illinois, confronted by precisely the same condition, took precisely the same course. Alabama, always progressive, but the happy possessor of other conditions, was able to place the regulation of medical practice for the time being under the control of its incomparable state medical association. Colorado created a mixed board. New York, confronted by conditions even more complicated than those in other states, took up the same task. The profession of that state, acting through its organized body, containing among its members many of the most honored and illustrious names in American medicine, found it doubly necessary to enter into treaty with the denominational physicians. It realized, however, that the rules of conduct to which it had always conformed contained, among other provisions, one which made it unlawful to "* * * examine or sign diplomas or certificates of proficiency for, or otherwise be especially concerned with the graduation of, persons whom they have good reason to believe intend to support and practise any exclusive and irregular system of medicine."

As the thing expressly interdicted by this rule was the very thing which it was proposed to do, and which had been done in other states, and which was very necessary to do in New York, the medical society of that state amended the rules of conduct so that it or its members might, at discretion, enter into professional relations with any or all persons whom the law of the state at that time recognized to be practitioners of medicine. When this action was brought to the attention of this national body it resulted, not as might have been expected, in the amendment or the abrogation of the rule which had grown obsolete in the march of events, but in its tacit reaffirmation and in the opprobrious excommunication, for the time being, of the entire profession of the great Empire State. This action, viewed impartially after the lapse of nearly twenty years, becomes the more extraordinary when it is observed that similar action was never taken with regard to Massachusetts or Rhode Island or Mississippi, the societies of neither of which had ever adopted the prescribed rules of conduct; nor with regard to California or Illinois or Colorado, each of which had, by overt act, if not by open declaration, so far as this rule is concerned, taken an equally non-conformist position. It is not surprising that, with such an example before the state societies, the experiment in consistency has not been repeated. But the movement of effective regulative legislation, once inaugurated, happily spread with great rapidity. Mixed boards of licensure are now to be found in the majority of the states of the Union, and in the majority of such boards are to be found members of the American Medical Association engaged in issuing licenses to practitioners of exclusive dogmas, and sitting in consultation with sectarian physicians, not over a dose of medicine, but over the vastly more vital question of the qualifications of those who are to care for the sick of our Republic.

The Medical Profession and Society at the Beginning of the Twentieth Century.—The results of the twenty-five years of statutory regulation of medical practice are in striking contrast with the results of the quarter of a century of attempted regulations by methods of proscription. At the conclusion of that humiliating experiment, as at the beginning of it, there was not a single effective medical practice law on the statute books of a single state of the Union. To-day there are forty-eight state or territorial licensing boards, the most of them being composed of representatives of both the regular and the sectarian schools of practice. The laws of the different states are of varying efficiency, the one procured by the Medical Society of the State of New York, at the price of yet-maintained excommunication from this body, standing to-day as the model of excellence for the entire country. Under the influence of these laws, instigated by members of the American Medical Association, and which, after all, are but expressions of the sentiments of the medical profession confirmed by society at large, many substantial reforms have been accomplished. The medical schools which, in this country, have labored bravely and efficiently under adverse conditions, have been stimulated to increased efficiency. One of the first changes accomplished was the practical standardization of requirements to enter practice; and one of the first features of this standardization was to secure for the student

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"the aids actually furnished by anatomy, physiology, pathology and organic chemistry"—the four cardinal studies which, strange-sounding as it seems, it was necessary solemnly and specifically to insist upon a half century ago. It follows, therefore, that with broadened and increasingly uniform curricula, it can not be said that schools even of sectarian antecedents entirely "reject the accumulated experience of the profession," nor can it be said that, in a sectarian sense, they any longer possess an excuse for existence. Their graduates, or such of them as do not base practice on an exclusive dogma, are, in many instances, met in formal consultation by even conservative regular physicians, and, in more than one instance, are made members of medical societies that are in affiliation with the American Medical Association.

The Reorganization of the Association.—The demand for more effective organization of the Association has come from all over the country and resulted in the adoption of a motion at Atlantic City authorizing the appointment of a committee of three to report a plan of reorganization at this session. Another motion was adopted authorizing the creation of a supplementary committee of one from each state and territory, entitled a Committee on Organization, which has been filled by appointing for the most part the retiring presidents of state societies for the current year. The Committee on Reorganization, consisting of Dr. J. N. McCormack, of Kentucky, Dr. George H. Simmons, of Illinois, and Dr. P. Maxwell Foshay, of Ohio, has given to the important question entrusted to it a most careful and painstaking deliberation. It has laid before you the results of its deliberation. In doing so it has emphasized the principle that this Association has its origin in the organized profession of the respective states. It emphasizes the fact that the delegate body should be so small that it can remain in prolonged session and give to various subjects under consideration that deliberate attention which has not been possible under the existing scheme of organization during the last forty years. It recognizes the paramount importance of the scientific feature of our work by relieving the general meetings and the sections alike of the troublesome details that now consume the limited and valuable time of the Sessions. It remedies the glaring and serious defects in the present constitution. It prepares the Association, by perfecting the organization, to meet important and pressing questions. These considerations, together with the fact that the existing constitutional provision relative to delay of action on pending amendments has been met by the appointment, a year ago, of a committee for the avowed and published purpose of reorganization, and by the action of the committee in laying the results of its work before every member of the Association—I say these considerations, and these facts, prompt me to advise the adoption of the proposed Constitution and By-Laws in their entirety at the present annual session of the Association.

The Committee on Reorganization, under the restrictions of the resolution creating it, has, very properly, left undisturbed the existing rules of conduct. These, if construed to have a fundamental importance, and if vigorously enforced as they now stand, would disintegrate the Association in a single day. This reason, and others already given, confirm me in the conviction that such rules should be either amended or abrogated, or, if reaffirmed, it should be by general resolution endorsing their underlying principles but disclaiming the present applicability of their details. There are, however, various views entertained upon the subject, and that the matter may be approached in a spirit of tolerance may be discussed coolly and impartially, that a consensus may be reached, and that harmony may be attained, I recommend that the general questions of the revision of the rules of conduct be referred to a special committee on ethics, consisting of three members, with instructions to report to the legislative body at the next annual session of the Association.

The New School of Medicine.—The changes which I have advocated are essential for the attainment of the purposes of the Association and for the fulfillment of the high destiny of our National profession. They are demanded by the changes that have taken place during the last fifty years. The legislative functions have passed from voluntary organizations to the Congress and the legislatures, where they belong; but it still devolves upon the profession in the organized capacity, to stimulate, to restrain, or otherwise to control the law-making power. The responsibility of the profession is increased, rather than diminished. Science has come to have a clearer meaning. He who now proclaims a dogma cries alone in the night, while the world sleeps. They who demand a creed may read its varying terms only in the progressive revelation of natural laws. Practice has changed. The depletions, the gross medications, the absurd attenuations, the ridiculous antimineralism have given way to a refined pharmacy and to a more rational therapy. Sacrificial surgery has yielded to the spirit of conservatism. Prevention is given precedence over cure. Education implies research and discovery, and all may delve. I proclaim, events proclaim, the existence of a new school of medicine. It is as distinct from the schools of fifty years ago as is the Christian dispensation from its Pagan antecedents. It is the product of convergent influences, of diverse antecedent origin. It acknowledges no distinctive title, it heralds no shibboleth. It is a school of human tolerance, of personal independence, of scientific honesty. It is the slave of neither prejudice nor preconception, and abandons the accepted truth of yesterday, if it only be the demonstrated error of to-day. It places no premium upon personal prerogative, and extends no recognition to in-

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dividual authority. It makes no proclamation of completeness, no pretention to sufficiency. It recognizes that truth is undergoing progressive revelation, not ending to-day, but continuing through the ages. It yields its plaudits to achievement, and recognizes that he is the greatest among men who reveals the most of truth unto men. It greets as a friend him who thinks, though he think error, for, thinking, he may think truth and thereby add to the common fund. It heeds all things, examines all things, judges all things.

To you, the exponents of this new school, of this new generation, of this new century; to you, representatives of the Democracy of Science; to you citizens of the Republic of Letters, I extend greetings; and here, in our parliament assembled, here, where our will is supreme, I this day invoke upon our deliberations the spirit of liberty, the spirit of courage, the spirit of progress, the spirit of truth.

INTERNAL MEDICINE IN THE NINETEENTH CENTURY.[1]

BY N. S. DAVIS, JR., M.D.,

OF CHICAGO.

IT is one of the duties of those who address you, as I do to-day, to review what has been newly discovered in the field of medicine or in some limited department of it. At this first meeting of the American Medical Association in the twentieth century, it seems most natural to review what has been accomplished in the last one hundred years. The time at my disposal is too brief to read to you a complete history of the achievements of this wonderful epoch, for more of genuine advancement has been made in medicine during it than during all the preceding centuries together. It is only possible for me to point out some of the reasons for the rapid development of medicine, to recall to your minds some of the most important discoveries and applications of them.

The wonderful, the revolutionary discoveries made by students of internal medicine during the nineteenth century are not always appreciated as they should be, for their results are often demonstrable only by statistics; and the dramatic rescue of individuals from certain death which the surgeon at times accomplishes, unfortunately cannot be effected by the therapeutist. It is not in the nature of his art. Great progress, however, has been made in the use of medicines and remedial procedures. Good reasons can be given for their employment, and their mode of action can be explained. Empiricism no longer governs their use as it formerly did. The placing of therapeutics upon a scientific basis began in the last century when the physiological effect of drugs was first demonstrated by experiments upon animals.

No field of medical research needs cultivation so much or is more certain to yield a rich harvest than therapeutics. It is surprising that we have not a larger volume of accurate knowledge of the effect of drugs than we do possess. Of late pharmacology has been neglected for studies which have temporarily been more enticing to experimenters, such as bacteriology and experimental pathology. Moreover, a knowledge of these subjects is essential to enable a clinician to apply his therapeutic resources to the mitigation of suffering, the support of strength, and the elimination or destruction of noxious substances. One can safely prophesy that the exact utility and the limitations of drugs and medical procedures will be defined in the present century.

To accomplish this, not only is more knowledge required of the physiologic action of drugs, but also better means of accurately measuring their effects when they are given to patients. We know when pain is relieved we can sometimes measure effects produced upon the heart and blood-vessels and temperature. Beyond this we depend for knowledge upon the impressions of physicians, impressions which must be corrected and often reversed by a wide experience. Clinicians possess only a few appliances or methods for the exact study of the sick. It is to be hoped that more will be discovered, and that they will also make it possible to register with accuracy the effect of drugs. When this is accomplished, undoubtedly a smaller number of useful drugs will be employed, but these with greater exactness.

It is true that more drugs are used to-day than need be, because patients demand them as a fetish; but this will be changed when laymen learn that it is the function of the physician to teach them what to do to give Nature the best chance to effect repair, what to do to make themselves comfortable and to preserve life. Then they will learn that it is a physician's function to teach them how to protect others from the same ailment, to foretell the possibility of recovery or death, and to avert or forestall complications. Medical men should include time and faith in their materia medica as an important means of effecting a restoration of health. I do not mean faith in a fetish procured in an apothecary's shop, but faith in the wisdom, honesty and disinterested devotion of physicians which will enable them to accomplish all that can be done for the suffering.

Although the greatest discoveries in the field of internal medicine have been applicable to the prevention of illness in the masses, much has also been done to increase the chances of recovery of individuals who are sick. I need call attention only to a few of the improvements in treatment which have been effected

[1] Annual Oration in Medicine, delivered at the Fifty-second Annual Meeting of the American Medical Association, held at St. Paul, Minn., June 4-7, 1901.

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to remind you of more. Typhoid fever, which has been a scourge in all civilized countries, and constantly present in all large centers of population, has not only been greatly lessened, sometimes even suppressed by improved hygiene, but the chances of recovery of the one who is sick with it have been increased several fold by improved methods of treatment. Twenty-five years ago the mortality from typhoid fever in the hospitals of the world was from 20 to 35 per cent.; to-day it is from 5 to 15. The better results are due to the cold baths which are used, to a more generous supply of fresh air, to proper feeding, and to protection against, or the prompt treatment of, complications.

One great therapeutic discovery has been made at the end of the nineteenth century—the discovery of antitoxins, the natural antidotes to the poisons of infectious agents. For a very long time it had been known that something developed in the human system during the course of many ailments which gave to the sufferer from them for a variable time immunity from a recurrence of the same disease. Until the existence of parasites and of poisons generated by them was proven, an antitoxin was of course unrecognizable. Moreover, the possibility of such a thing in diseases, one attack of which did not cause immunity to others, was not even suspected. But the diphtheria antitoxin, the most efficient of those of which we know anything, is one belonging to this last group of ailments. The chemical composition of antitoxins is yet to be discovered. Since antitoxin has been used the mortality from diphtheria has been reduced about one-half. The most extensive collection of statistics gathered from all civilized countries shows that when antitoxin is used on the first day of the disease, the mortality is 5 per cent., increasing rapidly to 30 per cent. when used on the fourth day or later. Before its employment, the average mortality of the disease was from 25 to 35 per cent. To effect a still greater reduction in the death-rate from this ailment, it is necessary that it be recognized early, and that antitoxin be employed more generally as a preventive for those who have been exposed.

That tetanus antitoxin and plague antitoxin are valuable is admitted. Many others, such as pneumonia, typhoid, tubercle, scarlet fever, erysipelas and streptococcus antitoxins are still in the experimental stage. But even though it should be found that few natural antitoxins can be isolated for use as remedies, those already discovered confirm physicians in the hope that specifics will be found some day.

Another therapeutic discovery made at the close of the century which has thrown a flood of light upon some obscure points in physiology and pathology, and has restored to usefulness many who were formerly incapacitated and incurable, is that of internal secretions, and especially the rôle of the secretion of the thyroid gland. Ingredients in the thyroid, suprarenal bodies, and ovaries, produce as definite effects upon the living body as many extracts from plants or synthetic chemicals. The pituitary body, the thymus, and bone-marrow may also have a value as yet undetermined. The rescue of those suffering from myxedema and cretinism by the administration of thyroid is one of the few happy dramatic incidents which fall to the lot of the practitioner of medicine.

That a much larger proportion of recoveries from tuberculosis occurs to-day than formerly is evident from the statistics of this disease, but this lessened mortality is not due to prevention only. Trudeau has estimated that 18 per cent. of all persons have tuberculous lesions, because a reaction to tuberculin can be demonstrated in that proportion. This statement is confirmed by Councilman, who states that his autopsy statistics show that at least 17 per cent. of all who die have had this disease. But in spite of this prevalence the mortality from the ailment is lessening.

Rabies and tetanus are two diseases which until recently were thought to be incurable. Rabies can be suppressed by killing unowned dogs and by muzzling the rest. Upon this point the following statistics from England are very instructive. In 1887, 217 deaths occurred in Great Britain from rabies; in 1888, 160; in 1889, 312. A muzzling law was then enforced. In 1891 the death-rate from the disease fell to 129; in 1892, to 38. The muzzling ordinance was repealed, with the result that in 1894, 248 deaths occurred from mad dog bites, and 672 in 1895. Again muzzling was made compulsory. The death-rate once more diminished: in 1897 it was 151; in 1898, 17; in 1899, 9, and in 1900, none!

Tetanus, quite common in hospitals formerly, is now prevented by properly cleansing and protecting wounds. It has become so rare a disease that to-day most students do not see a case of it during their college course.

The nineteenth century will be known in the history of medicine as the century of experimental medicine, for it is in that field that the greatest discoveries of the age have been made. The names of Pasteur, Koch and Lister will forever be linked with it as representing its greatest achievements. But these achievements would not have been possible had not the physicist perfected the microscope, and had not Virchow and his pupils explored the field of cellular pathology to its farthest limits. Around Virchow's name as a banner will historians gather the achievements in medicine during the early and middle portions of the century, and around Pasteur's those of its close.

If our greatest needs conditioned the growth of knowledge, we could prophesy what will be the great field of research of the twentieth

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century, but history teaches us that our needs can often not be met until some sister science has grown, or new methods of experimenting have been devised. Therefore, the future must remain a blank to us. However, we are more apt to accomplish what is needed if the problems are kept clearly in mind. We greatly need more exact methods of clinical study, more accurate knowledge of the effect of remedial agents and procedures, but more than all else we need a knowledge of the changes which take place in the living tissue in health as well as in disease.

The anatomist has resolved the cellular structure of the body; the physiologist, the laws which govern the action of its organs and the chemic changes which are wrought upon its surfaces; the bacteriologist has discovered the parasites that infest, and often destroy it; the pathologist has described the anatomical changes which disease produces; the clinician has linked all these facts together and has discovered ways of seeing with the intellectual eye disturbances of physiologic function, of determining their cause, and of anticipating the anatomic changes which they will produce. But this does not satisfy us; we want a knowledge of the atomic and molecular structure of cells, of the changes which take place in the atoms and molecules in health and in disease, and of the effect of medicines and remedial procedures upon them. This knowledge chemistry must give us. I feel sure that, standing as we do at the beginning of a new century, expecting greater developments in it than in the last one, we are halting before new discoveries in chemistry, waiting for new methods of studying metabolism in microscopic portions of tissue. When this knowledge is vouchsafed, medicine will make another stride as great as was made when, by the perfected microscope, cellular pathology and bacteriology became possible.

Let us look forward with confidence to the Virchow and the Pasteur of the future.

THE VALUE OF CLINICAL MICROSCOPY, BACTERIOLOGY AND CHEMISTRY IN SURGICAL PRACTICE.[1]

BY JOHN A. WYETH, M.D.,
OF NEW YORK

FOR many years, almost without exception, my predecessors in the address on surgery have devoted their labors to the exposition of some general or special subject in the domain of operative surgery, and while I would in no measure detract from the value of a thorough technical knowledge, we should not in our attention to the *art*, fall short of a proper appreciation of the *science* of surgery.

The experienced surgeon soon learns that it requires more than asepsis and the rapid and skilful performance of an operation to achieve the fullest measure of success; that although a thorough practical knowledge of regional anatomy is essential in the highest degree to the conscientious fulfilment of the professional obligation, it is equally important that there be called into requisition the invaluable aid which laboratory research alone can give in determining an accurate diagnosis; in indicating the most rational measures of treatment not only in the preparation of a patient for an operation, and in the selection of the safest anesthetic, but for the post-operative management of the case, and in removing as far as posible all doubts as to the prognosis.

Chemical analysis of the normal and abnormal secretions and excretions of the body, *clinical microscopy* and *bacteriology* should form a part of the educational requirement of every surgeon. I do not insist that the busy practitioner should attempt to master all the intricate processes of the laboratory, for this is only possible to one who devotes years of patient labor in the fascinating department of science, but he should possess that practical knowledge of chemistry of the body in health and disease, and of clinical microscopy and bacteriology which any diligent student, under a competent teacher, and in a properly equipped laboratory, should be able to acquire in a three months' course of study.

The instances are exceptional in practice where this knowledge cannot be applied with great benefit to the patient, and with satisfaction to the surgeon. It is naturally of greatest value in the cases where no emergency for immediate operation exists, but its advantages are not wanting in these rarer cases, since it comes to his aid in the post-operative period.

To the surgeon, one of the most gratifying results of the great triumph of the laboratory in the treatment of diphtheria is the fact that he is now rarely called upon to perform the operation of tracheotomy which was formerly distressingly frequent; nor to witness the sufferings associated with intubation of the larynx. A professional friend in the department of diseases of children informed me recently that whereas a few years ago he had from 10 to 20 intubations of the larynx on account of diphtheria in every month, he now, since the serumtherapy was practised, averaged only one or two.

I believe that what is true of this disease is true of all infectious processes, and that as our knowledge expands, a safe immunizing serum will be discovered for each special toxemia. Even now it would seem that this proposition is proved in other infections in which like diphtheria the pathogenic organisms are localized at the seat of infection, their toxic products alone entering the tissues through the circulation.

Tetanus toxemia, or "lock-jaw," the organism producing which was discovered by Nicolaier in 1894, and which for years has baffled the most strenuous efforts of the bacteriologist and clinician, seems at last to be classified with the con-

[1] Abstract of the Oration on Surgery before the Fifty-Second Annual Meeting of the American Medical Association at St. Paul, Minn., June 4-7, 1901.

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trollable infections. Professor Osler, in the last edition of his "Practice of Medicine," says the immunizing serum of Tizzoni has been successfully and encouragingly employed in doses of 2.25 grams for the first dose, and 0.6 gram for subsequent doses. Of 113 cases treated by this method 63 per cent. recovered.

The practitioner who has not called into requisition the invaluable aid which bacteriology affords in the differentiation of those too often obscure intraperitoneal lesions, cannot appreciate the satisfaction which this practical application affords. How often the safety of a patient hangs upon even a few hours' time, and alas, how often this precious time is wasted in the uncertainties of diagnosis, when a resort to the demonstration of science, available to all, would have plainly indicated the proper method of procedure. We know too well the fallacy of relying upon the ordinary subjective symptoms, and even some of the objective symptoms afford us no accurate clue to the pathological process which may exist. The pulse and the temperature of commencing typhoid may well be mistaken for the pulse and temperature of an appendicitis. The pain and muscular resistance over the right iliac and the right abdominal region are in many instances practically alike. The nausea, the vomiting, and the general sense of uneasiness point neither directly to the one nor to the other disease, but in a crucial test by Widal's reaction, with the blood-count pointing to the presence or absence of a leucocytosis, the question is quickly settled. I have seen all the symptoms of appendicitis present in cases in which the blood-count contradicted a pyogenic sepsis, and in which Widal's reaction told the story of typhoid. On the contrary, I have dealt with cases which ordinarily would have been most perplexing, in which all the symptoms of typhoid prevailed at a period when it was too early to recognize this disease by Widal's test, and a leucocytosis of from 15,000 to 21,000 proved at the earliest possible moment that the case was one for immediate operation.

In another fortunately rare disease, malignant pustule, caused by the lodgment in an abrasion of the bacillus anthracis, we are indebted to the laboratory for our knowledge of its etiology. The anthrax bacillus discovered by Devaine in 1863 is not usually found in the blood except in the most malignant cases, and in the last stages of fatal infection, but they can be demonstrated in the pustule of inoculation with the microscope or by cultures.

Not only does the laboratory come to our assistance in the diagnosis of certain obscure surgical lesions of the stomach, but it is still more valuable as an aid in arriving at the exact condition of the digestive functions of this organ, any derangement of which it is at times exceedingly important to correct in order to bring a patient into suitable condition to stand an operation. Thus it is important to determine in certain instances whether or not free hydrochloric acid exists in this organ, and while the total quantity poured into the stomach in the digestive process cannot be accurately measured, clinical chemistry can closely estimate the total quantity found at a given moment during digestion. The acid-combining power of the proteids is known, and by certain tests it is feasible to estimate sufficently close for a satisfactory diagnosis, the quantity of hydrochloric acid secreted. The small quantity of hydrochloric acid which combines with ingested inorganic elements is lost to gastric digestion, serving as it does its function in this process in the intestines.

A study of the discharges from the rectum is as yet of little value to the surgeon. Beyond the recognition of blood or pus, or cast-off cell elements in certain malignant neoplasms, there is but a single organism which is of real diagnostic value, namely, the amœba of dysentery, described by Lamb in 1859, which is a motile mass of protoplasm about 20 micromillimeters in diameter containing a single nucleus, and one or several vacuoles.

In the differentiation between the pathogenic organisms of specific and non-specific urethritis, microscopy and bacteriology are our only infallible guides. They teach us to eliminate the various bacteria found in the external genital and urinary passages, not bearing directly upon the etiology of urethritis, and to recognize distinctly the two forms of diplococcus, the gonococcus of Neisser, and the pseudo-diplococcus, which, while not morphologically different from the specific disease-producing organism, can be readily distinguished by special modes of staining as well as by cultures. In the daily routine of practice the exact nature of every suspicious urethral discharge should be subjected to careful scrutiny.

The presence of the bacilli of tuberculosis in one or both kidneys, even when they are exceedingly infrequent in the discharge, can be demonstrated in urine drawn by urethral catheterization, or by the more simple process of bladder segregation, when the suspected organisms are with other detritus thrown down by the centrifuge.

In the effort to arrive at the general condition of a patient, the chemical, microscopical and bacteriological study of the urine is only second in importance to that of the blood, and when we consider the additional and exact information which can thus be obtained concerning any pathological process at any point in the urinary tract, the value of this analysis is very materially increased. A careful study of the urine is always indicated before determining what anesthetic it is safest to employ in the operation to be undertaken. When there is no important lesion of the heart, either in its valvular mechanism or in the blood supply and nutrition of its muscular walls, few surgeons, I hold, would employ ether in a protracted operation in which there was any suggestion of an acute nephritis, or in certain chronic forms of Bright's disease.

The presence of oxaluria is in my opinion a

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contra-indication to a serious surgical operation, for the reason that it is pathognomonic of a disturbed nutrition due to insufficiency of the digestive fluids, and to fermentative processes in the intestinal tract.

The chemistry and microscopy of the urine further informs us when ammoniacal decomposition of the urine is taking place within the bladder, suggesting insufficiency of this organ due to obstruction of the urethra or to atony of the bladder muscle. The large rhombic masses or stellate and cross-shaped rosettes of the triple phosphates only exist in these abnormal conditions of the bladder, and with the brownish-colored, thorn-like crystals of urate of ammonia are important aids to diagnosis.

The presence of epithelia from the various portions of the urinary or genito-urinary tract, of spermatozoa and various bacteria chiefly pyogenic in character, are further and well-recognized evidence of the value of the microscope in surgical diagnosis. In rarer instances, the hooklets of echinococcus, the embryos of filaria and the ova of hemotobium Bilharzii are thus discovered in the urine.

When blood is found in the urine as a complication of papilloma of the bladder, particles of the broken-down tumor are very frequently found in the urine, and under the microscope the epithelial elements of this neoplasm are easily recognized and point clearly to the source of the hemorrhage. In hemorrhage from the kidney substance blood casts tell unmistakably of its source.

To-day, one of the most attractive subjects of laboratory research is the blood. Although hematology is practically in its infancy, many valuable discoveries have already been made, and in the proper study of a patient, a knowledge of the blood is as essential as that of the urine. It may throw no light upon many cases, but the reward will be tenfold in that particular instance where the diagnosis is made definite and clear. It is necessary to know the normal blood thoroughly by constant practice in order to recognize the abnormal changes which may be present in a given case, and I can think of no more useful way of spending the time not taken up by practice than by going over these important features of laboratory technic.

A knowledge of hematology enables the surgeon to detect any form of anemia and to determine whether it is a type of blood impoverishment which can be corrected, or whether it is of the graver or more pernicious forms which would either preclude an operation, or, if this were absolutely necessary, would enable him to announce to those entitled to information, the gravity of the outlook. In ordinary practice it is not always essential to differentiate between a pernicious anemia or a leucemia, or whether this latter condition is present in the lymphatic or splenic-myelogenous form, for the reason that all of these graver varieties call a halt to operative measures when these can be avoided. But the anemia which comes from malnutrition or malaria, or chlorosis, can be positively diagnosticated by a study of the blood.

The richness of the hemoglobin may in a fair measure be determined by the comparative color test of the blood in proper solution, as observed through Von Fleischl's hemometer. When a low percentage of hemoglobin is present, it is an indication to avoid any operative shock until the impoverished condition of the blood can be corrected by proper nourishment, by rest, or by medication, when this is positively indicated. This also suggests the aid of the microscope in a further investigation as to the condition of the corpuscular elements of the blood.

The surgeon would be extremely unfortunate to fail in the recognition of these often obscure lesions, and if possible to correct them before subjecting his patient to the severe ordeal of an operation. In the early recognition of septic processes—chiefly pyogenic—surgery can no longer disregard the value of the blood-count, especially the estimation of the leucocytes.

The relative number of leucocytes in a given quantity of blood, or their proportion to the red corpuscles, can be readily determined by the use of the Thoma-Zeiss apparatus which, as is well known, consists of two pipettes, one for the red and one for the white, with a well outlined and peculiarly constructed slide or counting apparatus, and employed with the ordinary one-sixth laboratory objective. The differentiation by the use of the Daland hematocrit, is not considered sufficiently exact to be satisfactory in the hands of the majority of hematologists. It is essential in making these differentiations to bear in mind the normal conditions that at the sea level the average number of red cells per cubic millimeter is 5,000,000 in men, and 4,500,000 in women, and 6,000,000 in the young and more vigorous adults, while the white cells average about 7,500 per cubic millimeter for each sex.

Certain conditions not considered normal, influence the number of leucocytes since in the latter months of pregnancy they are moderately increased, and after parturition, and during the early weeks of lactation, a leucocytosis may be present, without pathological significance. After hemorrhage the leucocyte count is increased, and in diphtheria, erysipelas, trichinosis, all extensive forms of endometritis and all acute pyogenic processes, leucocytosis exists except in those cases where the vitality of the individual has been overwhelmed by the severity of the septic process, under which condition the leucocytes no longer respond to the demand for the protection of the tissues, and are not present in the superficial blood in even normal proportions. It is probable that the application of this knowledge is more profitable at present in the study of the various lesions of the abdominal and thoracic organs. We know that in a certain proportion of cases of infection, temperature does not always indicate the increasing gravity of the lesion, while the degree of sep-

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sis can be in great measure determined by the leucocyte count. In impaction of feces, extra-uterine pregnancy, floating kidney, gall-stone, renal colic, ovarian neuralgia, intussusception, volvulus, inguinal hernia, twisted pedicle, etc., there is no leucocytosis unless complicated with an acute septic process. In abscess of the liver the leucocyte count ranges from 12,000 to 48,000, while there is a well-marked increase in all the septic pyogenic processes of the lungs and the pleura.

In osteomyelitis the leucocyte count ranges as a rule from 15,000 to 25,000, and at times higher. Since in the early stages of this disease it is at times difficult by subjective symptoms to differentiate between rheumatism or gout, the leucocyte count is invaluable in demonstrating at once the pyogenic process.

In that very rare disease, trichinosis, the leucocytes register sometimes as high as 30,000, but the special feature is the presence of a large number of eosinophile cells, sometimes as high as 50 per cent., and in rare cases 67 per cent. of the total number of leucocytes being this form of corpuscle. A very considerable number of cases have been reported within the last year in which the diagnosis has been determined by the presence of eosinophiles.

THE PROGRESS AND TENDENCY OF HYGIENE AND SANITARY SCIENCE IN THE NINETEENTH CENTURY.[1]

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HYGIENE is a department of medicine whose object is the preservation and promotion of health and deals, therefore, with all the factors likely to influence our physical welfare. It is not an independent science, but rather the application of the teachings of physiology, chemistry, physics, meteorology, pathology, sociology, epidemiology and bacteriology to the maintenance of the health and life of individuals and communities. The subject is very properly divided into personal and public hygiene. In the former the doctrines are applied to individuals, in the latter to communities and States.

This branch of medicine has received such an impetus within the last few decades that many persons regard it of modern origin; such, however, is not the case, for on turning to early history we almost invariably find that the health of the population has been made a subject of legislation. Hygiene was practised by the Egyptians, the old Indians and Hebrews, and a study of the habits of the primitive peoples shows that a desire to prevent disease is innate to all men.

The Greeks and Romans paid special attention to the physical culture of their youth; they also paid much attention to the water-supply, and Athens was provided with sewers at an early period of her history.

The teaching of Hippocrates, 400 B. C., doubtless bore many fruits, and whether it is true or not, as stated by Galen, that he ordered, during a pestilence at Athens, aromatic fumigation and large fires in the streets, we have at least his writings on air, water, soil, habitations and occupations and his views of local and seasonal influences on sporadic and epidemic diseases. In Homer's "Odyssey" reference is made to Ulysses purifying his house with burning sulphur, and Aristotle, in his "Politica," shows his sanitary acumen when he says: "The greatest influence upon health is exerted by those things which we most freely and frequently require for our existence, and this is especially true of water and air."

The Romans, amidst their military operations, found time to construct the "Cloaca maxima" about 2,400 years ago, which not only served for the removal of refuse, but also helped to drain many of the marshes, and constitutes the principal sewer of modern Rome.

Pests and Insanitary Conditions of the Middle Ages.—About this time most of the towns in Europe were built in a compact form, surrounded by walls; the streets were narrow and often winding for defensive purposes, shutting out light and air from the houses. The accumulation of filth was simply frightful. Stables and houses were close neighbors, human filth was thrown on the streets or manure heap. The dead were buried within the churchyards. Sewers and aqueducts having been permitted to fall into disuse, the inhabitants were compelled to resort to wells with polluted subsoil water. All the conditions were favorable for the spread of infectious diseases and in the fourteenth century alone the Oriental or bubonic plague, according to Hecker, carried off one-quarter of the population of Europe, or over twenty-five million victims.

The repeated invasion of the Oriental pest appears to have everywhere compelled some sanitary efforts and an imperial decree in 1426 required the appointment of city physicians throughout Germany, whose duty it was to adopt preventive measures. A city ordinance of Nürnberg in 1562 gives detailed directions as to the quality of bread, beer and wine offered for sale, the cleaning of streets and houses, the disposition of infected clothing and bedding, the fumigation with sulphur and straw of pest-houses, etc.

With such insanitary conditions we need scarcely be surprised that the mortality in towns was greater than their birth-rate and that the city population had to be recruited continually from the country. Toward the close of the eighteenth century many sanitary reforms were effected, however, especially in connection with infant and orphan asylums, and the management of schools and prisons. Of special importance is the brilliant discovery, or re-discovery, of vaccination by Jenner in 1796.

Progress of Sanitation in the Nineteenth Cen-

[1] Abstract of the Oration on State Medicine before the Fifty-Second Annual Meeting of the American Medical Association at St. Paul, Minn., June 4-7, 1901.

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tury.—The nineteenth century can boast of many advances in hygiene, particularly since the European invasion of cholera in 1830. The English towns which had been visited by this disease and those fearing similar scourges were willing to profit by their sad experience and freely instituted sanitary reforms in the establishment of sewers, public water supplies, sanitary homes, etc.

The example of England was followed by all civilized nations with similar results. The efforts of sanitation, as taught by Dr. Parkes, were demonstrated during the Crimean War and, as beautifully expressed by Virchow during our Civil War, reached "the highest point in humane efforts ever attained in a great war," and we may proudly add have even been excelled during our late Spanish-American war.

Progress of Sanitation in the United States.—While the people of the United States were not slow in adopting and originating sanitary measures of great value, our ideas of personal liberty, guaranteed to us by the Constitution, evidently prevented early legislation in matters of public health, for fear that such legislation might affect the personal habits of the citizen and lessen his freedom of action. Dr. Samuel W. Abbott, in his masterly exposition of "The Past and Present Condition of Public Hygiene and State Medicine in the United States," records, however, the gratifying fact that the early colonists recognized the need of preserving their records, which constitute the foundation stone of public hygiene, by enacting a law in 1639 "that there be records kept of the days of every marriage, birth and death of every person in this jurisdiction."

The importance of vital statistics is not fully appreciated at the present day, and yet, as remarked by Dr. Billings, "when we wish to study the healthfulness of a city, whether it is getting better or worse, or judge correctly the effect of certain sanitary laws, we should not only know the number of deaths, but also the amount and character of the prevalent disease, together with accurate information as to the number of population at different ages." It is a matter of regret, therefore, that even now only ten States, Connecticut, Delaware, Maine, Massachusetts, Michigan, New Hampshire, New Jersey, New York, Rhode Island and Vermont, have anything like a satisfactory system of vital statistics.

According to Abbott, "Up to the close of the eighteenth century and for several decades of the nineteenth, almost the only health legislation which was enacted in the different States in the Union consisted in a few laws relating to smallpox, since this pestilence was scarcely ever absent for many years at a time from any city or village, 'till after the general introduction of vaccination."

Dr. Waterhouse, of Cambridge, having secured a supply of vaccine lymph from Dr. Jenner, introduced vaccination in Boston in 1809, and Dr. Seaman in New York in 1801. In the same year President Jefferson received some virus from Dr. Waterhouse and was vaccinated by Dr. Grant, of Georgetown.

Health Boards.—New Orleans having lost 8,000 victims of cholera in 1832, out of a population of about 55,000, and anxious to maintain a quarantine, secured the enactment of a law in 1855 for the establishment of a State board of health; in 1869 a more comprehensive board was established in Massachusetts, followed in 1870 by California, since which time nearly all of the States and Territories —forty-two in number—have followed the example. *Pari passu*, and in many instances preceding the establishment of State boards of health, sprung into existence our local boards of health, who adopted measures for the control and restriction of infectious diseases, for the abatement of local nuisances, for the sanitary inspection of the food-supply, schools, public buildings and institutions and tenements; street cleaning and removal of refuse, registration of vital statistics, supervision of burials and of municipal water-supply, sewerage, and sewage disposal, care of bathing establishments, regulation of offensive trades, etc.

In September, 1872, the American Public Health Association was organized; in 1873, the Section on State Medicine of the American Medical Association was created; since then the American Climatological Association, the Sanitary Council of the Mississippi Valley, the American Sanitary Association, and the American Health Resort Association have been organized, and numbering, as they do, among their members some of the best minds in the profession, much good has been accomplished by these bodies, and the so-called "sanitary conventions" in molding public opinion and in framing and recommending health laws.

Indeed, the American Medical Association, according to Dr. N. S. Davis, Sr., gave prominent attention to State medicine and sanitation from its first meetings. At the second annual meeting, in 1849, standing committees were appointed on forensic medicine and on hygiene and reported annually on these topics and on meteorology, medical topography and epidemic diseases until 1860, when work in sections was commenced. Dr. A. N. Bell, of New York, delivered the first address on State medicine in general session of the Association in 1874, followed in 1875 by Dr. N. I. Bowditch, of Boston. In this connection, I may say that there is need of reliable information on the geographical distribution of diseases like goiter, cretinism, etc., and county medical societies would contribute much to the common fund of knowledge by placing on record information of this character.

National Board of Health.—The cholera epidemic of 1872 and 1873 resulted in the appointment of a commission by Congress. This, together with the yellow-fever epidemic of 1878 in the Southern States, affecting, according to Sternberg, over 74,000 persons, with 10,000

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deaths, called attention to the necessity of some central sanitary organization. In March, 1878, Congress created a national board of health, whose duty it was to make investigations into the causes and means of prevention of contagious and infectious diseases, to indicate measures of national importance and to be a center of information for all matters relating to public health. For want of appropriation this important body has ceased to exist, and since 1883 the duties relating to international and interstate quarantine have been discharged by the Surgeon General of the U. S. Marine Hospital Service.

National and International Quarantine.—The question of an efficient system of national and international quarantine against Asiatic cholera, yellow fever, smallpox, typhoid fever, bubonic plague, and leprosy has engaged the attention of sanitarians for years, especially since it became known that these diseases, particularly cholera, are generally carried along the highways of travel and commerce. General Wyman's plan, as outlined in his address before the Pan-American Medical Congress, contemplates an international system of sanitation; while his proposition refers especially to yellow fever in the Western Hemisphere, it is equally applicable to the home of cholera and the Oriental plague.

Has Human Suffering Been Mitigated, and Human Life Been Greatly Prolonged by Efforts in Sanitation?—Our answer is an emphatic "Yes." Professor Finkelnburg, of Bonn, estimates that the average length of human life in the sixteenth century was only between 18 and 20 years; at the close of the eighteenth, it was a little over 30 years, while to-day it is over 40 years; indeed, the span of life since 1880 has been lengthened about six years, as shown by statistics, in Mulhall's "Dictionary of Statistics" (4th edition, London, 1899).

The mortality of London between 1660 and 1678 was 80 per 1,000 of inhabitants; from 1728 to 1780, 51 per 1,000; from 1801 to 1835 it was still 29, while at the present time it averages between 17 and 19 per 1,000.

Without underestimating the brilliant achievements of Jenner's discovery of vaccination in 1796, which as a preventive measure has saved millions of lives, no two factors have contributed so much to the general result as the improvement of the air we breathe and the water we drink.

The history of every sewered city shows a lessening of the typhoid death-rate subsequent to the construction of the sewers and that the typhoid rate is always higher in sections supplied with privy pits and box privies, than in the houses connected with sewers.

Influence of Improved Water-Supplies.—A summary of the evidence on this subject reveals the significant fact that cities, both at home and abroad, in which there has been the most marked decrease in typhoid-fever death-rate, are those in which a pure supply has been substituted for a pre-existing contaminated one.

When we remember that in 1896, 41 per cent. of our population lived in towns having public water-supplies, and only 28.7 per cent. in sewered towns, we fear that the municipal authorities have failed to recognize the necessity that a system of public sewerage must go hand in hand with the public water-supply, the neglect of which simply compels recourse to the various makeshifts for the collection and removal of excreta, and leads to soil pollution and all the other evils already referred to.

In view of the fact that self-purification of rivers is a slow and uncertain process, and that streams once polluted with excrementitious matter can not be considered a safe water-supply, it is high time for civilized communities to take steps toward removing the danger to be found in rivers, which are the sewers and at the same time the sources of public water-supplies.

One of the most pressing needs is an investigation into the pollution of water-supplies when such pollution affects or threatens to affect the sanitary condition of the people of more than one state, because the individual states are powerless to protect themselves against the misdeeds of their neighbors.

No community or individual has a right to pollute streams used for public water-supplies any more than a man has to contaminate his neighbor's well. This principle is very well appreciated by some of the nations in Europe. Thus the inhabitants of a town in Belgium suffered from the effects of a river polluted by the French and the French Government not only compelled the offending town to dispose of its sewage by irrigation, but also granted a subsidy for this purpose.

Pure Food and Drug Legislation.—The first movement toward securing comprehensive legislation against the adulteration of foods and drugs in this country was made in 1879. This is all the more surprising because Dr. Mann, in his "Medical Sketches of 1812," remarks that "the bread on the Niagara was made of damaged flour, such as was either not nutritious or absolutely deleterious." It was believed also that the flour contained in some instances an earthy substance, and that this adulterating substance was plaster of paris. Again, during the Civil War, as early as the winter of 1861-62, an extract of coffee furnished the troops in the vicinity of Alexandria produced nausea and vomiting, and subsequently a government contractor, for having practised food adulteration, was sentenced to a protracted imprisonment.

Some adulterations are harmful, others are not. I will simply refer to a very universal article of food, viz., milk. New York City obtains its milk-supply from five States, and amounted in 1896 to nearly 729,000 quarts a day. Analysis of the milk sold some years ago showed an average dilution with 33 per cent. of water. The State inspector found 12 per cent. water added and 20 per cent. of cream removed, the fraud amounting to over $10,000 a day. The results

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in St. Louis, Chicago, and elsewhere were similar, and indicated the desirability of stringent laws to protect the pocket of the consumer, but when we remember the frightful infantile mortality, and the fact that the speaker has recently presented his conclusions, based upon 195 epidemics of typhoid fever, 99 of scarlet fever and 36 of diphtheria and that 52 of these outbreaks occurred in this country since 1882, we see at once that the milk traffic should be under strict sanitary control.

Laws Regulating the Sale of Drugs and Poisons.—Forty-two States and Territories have enacted laws to regulate the sale of poisons, but a careful study shows that they should be amended, and greater restriction placed on the sale of poisons generally. A recent investigation by a committee of the Medical and Surgical Society into the extent of the opium and drug habit in the District of Columbia developed some interesting facts, and led to the conclusion that one class of subjects have developed the opium habit by the use of the milder preparation of opium and some of the various proprietary or secret remedies commonly employed as domestic remedies, such as paregoric, McMunn's elixir, chlorodyne, blackdrop, soothing syrup, diarrhea mixtures, pain-killers, etc. It is clearly the duty of the State to close opium dens and restrict the sale of poisons, and in regard to the sale of patent and proprietary medicines containing poisonous drugs, the contents should be expressed on the label and the word poison added.

Patent and Proprietary Medicines.—By the term patient medicine, as properly employed in this country, England and Europe generally, it must be understood that the composition is known and can be seen at the patent office. The proprietary medicine is a secret preparation protected by a trade mark in this country, and hence preferred by the owner, but both are vaguely termed by the public patent medicines. Up to December 10, 1900, the United States Patent Office had issued patents on the following: disinfectants, 321; extracts, 250; hair dyes and tonics, 48; insecticides, 180; internal remedies, 376; plasters, 56; topical remedies, 371; veterinary, 78. Trade marks: drugs and chemicals, 319; medical compounds, 5,974, and increasing at the rate of about 250 a year.

The proprietary medicines are subject to the control of the State authorities, and if containing alcohol in sufficient quantity to be intoxicants are subject to internal revenue laws; but, so far as my knowledge extends, little or nothing has been done in this country and in England to control the sale of secret remedies.

Industrial Hygiene.—The relations of occupation to health and life were studied as early as 1700 by Ramazzini, an Italian physician, and since then numerous monographs have appeared. We know to-day that persons habitually engaged in hard work, especially in factories and indoors, present a higher mortality than persons more favorably situated, and that the character of occupations influences, to a great extent, not only the average expectation of life, but also the prevalence of certain diseases. For all these reasons the laboring classes need special protection, and in order to render this efficient, it must be provided for by the enactment and enforcement of suitable laws. The first law as regards safety and sanitation was enacted in Massachusetts in 1877, since which time, from information kindly furnished by the Hon. Carroll D. Wright, of the U. S. Department of Labor, thirty-two States have enacted similar laws, including legislation requiring seats to be furnished saleswomen in stores and shops.

Sanitary Dwellings for Wage-Earners.—No field affords better opportunity for philanthropic work than the erection of sanitary homes for wage-earners at reasonable rentals, the encouragement of cookery schools, the establishment of sanitary lodgings, model eating-houses and other betterments of industrial conditions.

Rural Hygiene.—When we consider the fact that over 70 per cent. of our population reside in rural districts, that the "bone and sinew" of these are engaged in agricultural pursuits, and that they do not enjoy the benefits of enforced sanitation by local health boards, we see at once the desirability of the family physician extending useful suggestions on healthful building sites and homes, disposal of house wastes, the importance of a pure water-supply, wholesome and properly cooked food, etc. As it is now, the diet is faulty, especially the hot biscuits, greasy fried dishes, while wells and privies are often dangerous neighbors. The undue prevalence of typhoid fever in rural districts could be materially checked by disinfecting the stools with three times the volume of boiling water and the adoption of the earth-closet system. This is all the more important since infection is often spread through the milk-supply, and many of our urban population contract disease in the country during the summer months. While prompt disinfection of the excreta is the only rational method, we should also make an effort to get rid of the flies by prompt disposal of the horse manure in which they breed, the abandonment of open privies and surface pollution, removal of garbage and other fly-breeding matter.

School Hygiene.—During the year ending June 30, 1900, there were 15,341,220 children enrolled in the common schools of our country. When we consider that the mental and physical vigor of a nation depends largely on the environments of childhood and youth, it seems strange that up to within forty years little or no attention should have been paid to the hygiene of schools. The occurrence of so-called school diseases is not surprising when we reflect that children, on beginning school, enter upon a new life and environment. Up to this time they have been allowed to run and play in the open air, exercise the body and senses, without restraint, but now without a period of transition they are obliged to remain for several hours a day in close and

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sometimes insanitary school-rooms, taxing their minds and straining their eyes for near objects. Experience teaches and statistics confirm the conclusion that quite a number of children suffer from certain physical defects and diseases, which, because rarely observed before the school period, may be justly attributed the school environments. Among the most common of these affections are myopia, lateral curvature of the spine, dyspepsia, anemia, muscular debility, headache and nose-bleed, nervous affections and tuberculosis.

Smallpox and Compulsory Vaccination.—In this connection, attention is invited to the undue prevalence of smallpox in the United States; the total number of cases reported to the U. S. Marine Hospital Service during the past fall and winter, up to March 29, was 11,964, as compared with 7,279 cases for the corresponding period of the preceding year, and it is doubtless due to neglect in vaccination. Dr. Abbott estimates the vaccinated portion of the inhabitants of the United States at not far from 90 per cent., and the revaccinated portion at probably 50 per cent. With the introduction of glycerinated animal lymph every vestige of prejudice against vaccination should cease, and compulsory laws should be enacted in every State, so that smallpox here, as in the Germany army, may become practically unknown.

Venereal Diseases.—A careful perusal of recent literature on the subject of venereal diseases should stimulate our efforts in the prevention of diseases, which affect not only the offender, but innocent wives, the offspring and not infrequently even the medical attendant. According to Fournier, one-seventh of the population of Paris is syphilitic, and Morrow, from statistics gathered in New York, believes it is quite possible that Fournier's figures, with some modification, may apply to New York. Neisser holds that gonorrhea is, with the exception of perhaps measles, the most widespread of all diseases. Other German authorities have computed that fully three-quarters of the adult male population and one-sixth or more of the adult females have contracted gonorrhea: that 80 per cent. of all deaths from disease of the uterus and its adnexa are of gonorrheal origin, while blenorrhea neonatorum contributes a contingent to our asylums for the blind estimated at from 10 to 20 per cent.—from 40 to 60 per cent. before the Credé method was instituted—not to mention the destructive effects on the procreative functions. Dr. S. M. Burnett, of Georgetown University, believes that 15,000 of the 50,000 blind persons in the United States lost their sight from this cause, which according to his calculation involves a financial loss to the commonwealth of seven and one-half millions annually.

The measures which have been proposed for the control of the social evil and the prevention of its consequences are numerous enough, but not so easy of practical application. On the whole I believe the remedy lies in public education, and the task as usual falls on the medical profession, especially the trusted family physician. Public lecturers on the purity of man commit a serious mistake, however, when they picture the consequences of the social evil, without offering a suitable remedy. We should make a strong plea in favor of continence, and tell our young men that while the sexual passion is very strong it can be accelerated or delayed, excited or lowered by the influence of the will. We should assure them that by the cultivation of pure thought, removal of temptation, normal, mental and vigorous physical exercise, continence may not only become possible, but easy.

The Management and Control of Infectious Diseases.—It is the field of infectious diseases where preventive medicine has and doubtless will continue to achieve its greatest triumphs, and there is ample room, when we consider that during the census year of 1890 there were not less than 102,199 deaths from consumption, 74,496 from pneumonia, 74,711 from diarrheal diseases, 41,677 from diphtheria, and 25,058 from typhoid fever.

The eradication of preventable diseases is the highest aim of scientific medicine to-day. The public should be made familiar with the nature and causes of infectious diseases, and be taught that many are a source of danger, against which it is entitled to be warned by proper notification through the health officer. This notification should be made compulsory in cholera, yellow fever, smallpox, chicken-pox, typhus and typhoid fever, diphtheria and membranous croup, scarlet fever, tuberculosis, cerebrospinal meningitis, leprosy, glanders, bubonic plague, whooping-cough and measles.

Disinfection.—Scientific disinfection had its inception with the labors of Koch and Sternberg some twenty years ago. Although, as we have seen, certain physical and chemical agents were used empirically for ages, now we know from laboratory experiments that they are effective, because they destroy the vitality of the germs. We also know that, in most of the contagious diseases, the infective matter is given off by the patient chiefly through the secretions and excretions, and it is evident that disinfection to be of value must be directed to these and all the media with which the patient has come in contact.

If Certain Diseases Are Preventable, Why Are They Not Prevented?—My answer is that while every scientific physician familiar with biologic research knows full well that if the methods of prevention recommended by sanitarians, including the prompt disinfection of the dejecta of every typhoid fever patient, the expectoration and excretions of diphtheritic and tuberculous patients, for example, were adopted, these diseases would be reduced to a minimum and probably eradicated in the course of a few years. Nor are we resoponsible for the fact that so many of our States still permit every charlatan to practise one of the most difficult and responsible of all professions without a uniform and rigid sys-

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tem of examination. However, we owe it to ourselves and to humanity to take positive steps in behalf of higher medical education and laws regulating the practice of medicine. So long as we permit the existence of irregular and incompetent practitioners, so long will the public be deceived and will we be obliged to compete with incompetent men, and so long as we tolerate the exponents of so-called "Christian Science," osteopathy, and other quacks, infectious diseases will be spread as the result of ignorance and neglect.

Forecast of the Result of the Census Work upon the Mortality Statistics.—Notwithstanding these and other disadvantages in the way of defective sanitary legislation, the American medical profession has reason to be proud of its work in the century's progress of hygiene and preventive medicine. It may be truly said that every hospital or other medical charity owes its foundation and success to the activities of the medical profession. Nay, every law inscribed on the statute books, in the interest of public health in this and other countries is the work of our noble profession. Acting upon the lofty principle that the education and betterment of the people in sanitation is not less humane than the healing of the sick, the American medical profession has filled the measures of its philanthropy by advocating laws to "regulate the health and physical well-being of communities," and thereby lessen its own income, but the results obtained during the last ten years are sufficient recompense. By the courtesy of Mr. Wm. A. King, Chief Statistician of the U. S. Census Bureau, I am enabled to give you a forecast of the result of the work upon the mortality statistics at the close of the century:

The mortality returns for the twelfth census, which relate to the year beginning June 1, 1899, and ending May 31, 1900, have not yet been tabulated in full, but sufficient progress has been made to permit a comparison of the preliminary results with the figures for 1890 for a portion of the country.

Considering these results for these States in which the returns were secured from registration records in both 1890 and 1900, there appears to have been an absolute decrease in the general death-rate of about 1.5 per 1,000 of population. This decrease seems to be most marked in the rates due to scarlet fever, whooping-cough, diphtheria and croup (combined), typhoid fever, malarial fever, consumption, diarrheal diseases, and diseases of the nervous system, the decrease in the mortality from diphtheria and croup amounting to more than 50 per cent. On the other hand, the rates due to carcinoma and tumor (combined), Bright's disease, heart disease and dropsy (combined), and pneumonia are apparently greater than in 1890, the increase being most marked in case of Bright's disease, carcinoma and tumor, and pneumonia.

The death-rate by age periods in the registration States has not yet been computed as the population figures are not yet available, but the effect of the decrease in the rates due to the causes specified is shown by a decrease in the proportion of deaths occurring at each period up to 30 years.

The results in the decreased rate of diphtheria, croup, scarlet fever, typhoid fever, whooping-cough, consumption, malarial fever and diarrheal diseases are the direct outcome of preventive medicine and are as gratifying as they are striking. We note with regret the increased rate in Bright's disease, heart disease, dropsy and pneumonia, and may well pause to inquire whether our ever-increasing "National Drink Bill," averaging 17.68 gallons per capita, may not be a factor in the development of these diseases, especially since there is reason to believe that the habitual and immoderate use of alcohol, apart from increasing the connective tissue and causing cirrhosis, also produces fatty degeneration, especially of the heart, liver and arterial coats, probably because it promotes the conversion of albuminoids into fats.

Without wishing to underrate the brilliant achievements in surgery of the brain, stomach, intestines, liver, gall-bladder and other abdominal organs, and even wounds of the human heart which have been successfully sutured in four of the nine cases reported, what after all are the ultimate benefits compared with the results obtained by improved methods in sanitation? It appears that the universal application of sanitary laws often robs them of their human interest, where the opposite should be the natural effect.

Since our knowledge of the nature of infectious diseases has been more and more defined, scientific methods for their prevention have been applied. We have learned, too, that in addition to the germ there must be a suitable soil for its proliferation and that sanitation will not only destroy the environments for its development without the body, but also place the system in the best possible condition to resist its toxic action.

The application of this knowledge has saved millions of lives besides an incalculable amount of human suffering and distress, not to mention the economic aspect of the question which should appeal to the most mercenary.

To the solution of this problem, the labors of Salmon and Smith, Sternberg, Welch, Osler, Councilman, Reed and other Americans engaged in experimental medicine have contributed their full share. Progress has crowned our past, we will not retrograde. Let our conduct raise no blush on the cheek of posterity. Let us hand in hand with heart and mind join in promoting the welfare of American medicine, until she has reached the proudest pinnacle in the world of science, until she has become the fountain-head of knowledge for the benefit of mankind. Then when at last we are called upon to pass through the portals beyond, Minerva Medica, in her sweeping robes of state, will proudly but reverently present us to the Supreme Healer of the Universe as types of the true physician.

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MEDICAL PROGRESS.

Ovarian Secretion.—Referring to the effect of double ovariotomy and the influence of the ovarian internal secretion, W. E. DIXON (*Practitioner,* May, 1901) believes that the presence of ovarian tissue in the body, however small in amount, is sufficient to prevent the distressing symptoms which frequently follow complete extirpation. Even transplanted ovaries are sometimes able to prevent the induced menopause which is probably certain to occur if the ovaries are entirely removed. The administration of ovarian tissue by mouth exerts a beneficial influence on patients in whom menstruation has ceased in consequence of disease or complete ovariotomy. It has a direct effect upon metabolism as shown by the increase in weight due to the deposition of fat and the diminished excretion of P_2O_5. Evidence points to the theory that the ovary furnishes an internal secretion which favors catabolic changes.

Saline Treatment of Dysentery.—W. J. BUCHANAN (*British Med. Jour.,* April 13, 1901) presents a continued report of 855 cases of acute dysentery with but nine deaths—a little over 1 per cent. The solution used is as follows: Sodii sulphatis ℥i, aquæ forniculi ad. ℥i. One dram four to eight times a day. It is important that the stools be inspected daily, the saline being continued till every trace of blood and mucus has disappeared. Although this treatment has been severely criticised by the Medical Corps in South Africa as being too painful for practical use, Buchanan states that this is not the case if intelligent care be used in its exhibition. He states further that the saline is suited to the acute form only and should never be tried in the chronic. The diet in the Bengal Hospital consists largely of rice-water, boiled milk and tyre. This diet, together with daily inspection of the stools, is of paramount importance.

Adrenalin.—EMIL MAYER (*Phila. Med. Jour.,* Apr. 27, 1901) describes the characteristics of this drug and its actions, and presents a table showing the results obtained from its use in thirty-five cases. From his clinical experience with adrenalin, the active principle of the suprarenal gland, the writer formulates the following conclusions: (1) Adrenalin solutions supply every indication in rhinological practice for which the aqueous solutions of the extract have been hitherto applied; (2) they can be used in sterile form; (3) they remain unchanged for a long time; (4) a solution of 1 to 1,000 is very strong and is all sufficient for operative cases, and 1 to 5,000 or 1 to 10,000 for every purpose of local medication; (5) they may be safely applied to persons of every age and of either sex. Mayer believes that in the isolation of the blood-pressure-raising principle of the suprarenal glands we are confronting an epoch-making discovery, and that with the discovery in the near future of the active principles of other animal substances, organotherapy will derive a new impetus and an exactitude in administration which will give these remedies a new power in our hands.

Mixed Narcosis.—H. BRAUN (*Münch. med. Woch.,* May 14, 1901) draws attention to the greater safety of ether-chloroform mixtures over pure chloroform and to the inaccuracies experienced in giving them with the usual masks. He recommends a specially constructed apparatus, which allows air to pass through both chloroform and ether, the amount of each being regulated by several levers. The anesthesia is induced with a mixture of both vapors, a bulb being pressed synchronously with the inspirations. As soon as complete relaxation is established, the lid-reflex still being present, the narcosis is continued with pure ether. If at any time the respirations should become too shallow, the ether should not be pushed, but chloroform added. In the majority of cases, the period of toleration was reached in 6-8 minutes and but small quantities were found necessary.

Malignant Syphilis.—As characteristic of the malignant form of syphilis D. LOCHTE (*Monatshft. f. prakt. Dermatolog.,* May 15, 1901) mentions the early appearance of numerous ulcerations over the entire body, loss of weight, fever and inefficiency of the usual antisyphilitic remedies. Frequently generalized lymphadenitis is absent and the skin generally shows the most extensive lesions, which very early take on the appearance of tertiary change. Although mercury is often powerless, iodide of potash is frequently well borne; in most cases, however, the best results will be obtained from a preliminary course of tonics such as iron and cinchona. Renewed attempts with the iodides may then be made; if a tolerance is not established, iodothyrin may be resorted to. The causes of malignancy of syphilis in certain patients is not very clear, but certain diseases, as alcoholism, tuberculosis, scrofulosis and diabetes, are mentioned as lowering the resistance of the tissues to syphilitic infection.

Hand Disinfection.—P. G. UNNA (*Monatshft. f. prakt. Dermatol.,* May 15, 1901) recommends the following method: the surgeon on the night before the operation scrubs his hands with soap and hot water and then applies an alcohol dressing covered with gutta-percha. The next morning, superfatted soap is employed and the hands then dried with a sterile towel. Immediately before the operation, the superfatted soap, which protects the crevices of the skin, is then washed off.

Action of Orchitic Extract.—Ancient Roman and Grecian history contains many allusions to the use of semen or testes to increase the vigor of wasting manhood. In modern history Brown-Séquard seems to have been the cause of a revival of the use of this method which had been neglected during the medieval years. Results have been most conflicting, but experiments have recently been made to determine the changes of

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metabolism which occur after its administration. W. E. DIXON (*Practitioner*, May, 1901) finds that it is probably the nucleo-proteid portion which acts nominally as an internal secretion and produces a specific effect upon metabolism. When taken by mouth an immediate hyperleucocytosis is produced, and the excretion of P_2O_5 in the urine is increased, the increased excretion of P_2O_5 being in excess of that contained in the nucleo-proteid. When injected subcutaneously there is a prolonged hypoleucocytosis and the phosphoric acid excretion in the urine is diminished. Furthermore, the latter method has a direct effect upon the heart and peripheral circulation. The heart is slowed and the action becomes more feeble and, mainly as a result of this effect, the blood pressure falls. There is also a dilatation of the peripheral blood vessels. The clinical value of this remedy is still unknown, although it has been recommended for various diseases, especially of the nervous system, by most able authorities.

Treatment of Meningitis.—Depending upon the age of the patient and the severity of the case, F. DAXENBERGER (*Klein. therap. Woch.*, May 12, 1901) has used 2-3 grams (30-45 grs.) of Credé's ointment twice daily up to a total of 10-20 grams (150-300 grs.) rubbed into the skin of the head or neck in cases of acute meningitis with some remarkable cures. At least fifteen minutes should be spent in the inunction and a resulting dermatitis is no contra-indication.

Lumbar Puncture in Persistent Uremic Headache.—In a case of uremia presenting albuminuria, high arterial tension and cardiac hypertrophy, MARIE and GUILLIAN (*La Méd. Moderne*, May 8, 1901) resorted to lumbar puncture for the relief of the violent and persistent headache, ordinary treatment having proven ineffectual. Six c.c. of cerebrospinal fluid were removed. The relief of excessive tension by this means was followed within two hours by a disappearance of the headache, and the symptom did not return for two days. The authors hold that there is a certain analogy between the hypertension of the cerebrospinal fluid in nervous uremia and that which is known to exist in cases of brain tumor. The indication for lumbar puncture in uremia is the continued presence of severe headache in spite of rigorous treatment of the underlying cause. It should not be resorted to, however, until analgesics have failed.

Antistreptococcus Serum in Puerperal Infection.—LUDWIG KNAPP (*Prager med. Woch.*, May 9, 1901) injects as first dose 10 c.c.; when negative result follows the dose is repeated after twelve hours, and a third dose is given twelve hours later if necessary. It cannot be said that this treatment has yet been satisfactory. The results have been either doubtful or absolutely negative.

Causes and Treatment of Movable Kidney.—M. L. HARRIS (*Jour. Amer. Med. Assoc.*, June 1, 1901) has made careful measurements in two hundred cases, including men, women and children, and argues that the essential cause of movable kidney lies in a particular body form whose chief characteristics are a marked contraction of the lower end of the middle zone of the body, with a diminution in the capacity of this portion of the body cavity. This diminution in the capacity of the middle zone depresses the kidney so that the constricted outlet of the zone comes above the center of the organ; such acts as coughing, straining, lifting, flexions of the body, etc., which tend to adduct the lower ribs, press on the upper pole of the kidney and crowd it still further downward. Continued repetition of these influences produces movable kidneys. In fixing a movable kidney, it is best to fix it low down, where it will not again be subjected to the influences which originally caused its descent.

Acetopyrin in Rheumatism.—This drug is recommended by CAPITAN (*La Méd. Moderne*, May 1, 1901) in cases calling for the combined therapeutic action of salicylic acid and antipyrin. It appears to have no objectionable action on the stomach. In forty cases of rheumatism treated by Bolognerie, rapid effects were produced by the administration of two to three grams daily, in divided doses. In rare instances some depression resulted, but no case of collapse is recorded. Temperature is said to be reduced at least 1° C. within an hour after the administration of a single dose.

Diagnosis and Surgical Treatment of Renal Diseases.—According to F. TILDEN BROWN (*Boston Med. and Surg. Jour.*, May 30, 1901) smegma bacillus leads to confusion in diagnosis; it is excluded by collecting urine by catheter from the bladder. In doubtful cases animal inoculation must be resorted to. Tubercle bacilli having been found in the urine, cystiscopic ureteral examination will fix the location of the lesion in the bladder or kidneys. In some cases the lesion is not in open communication with the urinary channels, and symptomatic diagnosis must be made. Lumbar pain may occur early. Frequency of urination indicates involvement of the lower segment of the ureter. The principal objective symptoms are enlarged and tender kidney; pyuria and hematuria, diurnal variation in temperature, loss of color and weight, reaction to tuberculin, tubercle bacilli in urine. The value of tube cultures is chiefly in the demonstration of the presence of other pathogenic microorganisms. Treatment consists of nephrectomy.

How to Treat Muscular and Joint Sprains.—HALDOR SNEVE (*Jour. Amer. Med. Assoc.*, June 1, 1901) points out that mere immobilization of muscles is not equivalent to rest; the muscles remain in a state of tonic contraction and can best be treated by passive motion from the beginning and active exercise later. Plaster casts are only to be used where it is impossible otherwise to maintain a proper position of the joint, as in some cases complicated with fracture. Ice over a wet cloth is useful during the first few hours; hot fomentations later where stimulation is needed. For strains the best treatment is the

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counterirritation of static electricity in conjunction with massage. The best treatment for sprains is the ambulatory treatment with massage.

Lobar Pneumonia "Cured" by Diphtheria Antitoxin.—Following the suggestions of Talamon and Capitan, NEGEL (*La Méd. Moderne,* May 1, 1901) treated a case of frank lobar pneumonia in a man, fifty-eight years of age, by the injection of 20 c. c. of antidiphtheritic serum. This injection was given on the day the physical signs were detected, two days after the patient entered the hospital with symptoms of a common cold. The dyspnea at this time was marked; there was pronounced dulness over three-fourths of the right lung, and pronounced tubular breathing; temperature 39° C. The following day numerous râles were heard, temperature was 38° C., but the patient was still feeble. The serum injection was repeated—20 c.c. Twenty-four hours later temperature was 37.8° C. Crepitant râles were numerous, and resolution proceeded from this time without interruption.

Use of Sulphur Waters in Endometritis.—Natural and artificial waters containing H_2S have been employed with success in the treatment of chronic endometritis by PERRIER (*Jour. de Méd. de Paris,* May 12, 1901). Associated lesions of the adnexa do not contra-indicate this treatment, but are even ameliorated by it. Caution is advised in cases having cardiac disease, advanced tuberculosis, uterine fibroma or general nervous irritability. Perrier believes that sulphur irrigations give more certain and more lasting results than curettage. They have been found useful, both in chronic catarrhal or purulent endometritis and in hemorrhagic or decidual cases.

Muscular Action of Arteries.—In commenting upon Dr. Daland's paper on arterial spasm A. H. SMITH (*N. Y. Med. Jour.,* June 1, 1901) says that too little attention is paid to the changes which occur in the muscular layers of the blood-vessels in cases of arteriosclerosis. Physiologically the whole arterial tree, to its minutest branches, is only a continuation of the left ventricle and is therefore a muscular organ. There is a positive muscular action following behind the volume of blood and it is caused by the stimulating action of the distention of the blood-vessel by the passing wave of blood. The condition of arterial spasm, therefore, not only increases the work of the heart directly, but also cripples the heart by depriving it of the aid it should have from the rhythmic muscular action of the arteries.

Theories of Inheritance.—Although medical men are continuously inquiring of their patients in regard to inherited conditions and diseases, they pay little attention to the theories which have been advanced relative to the method of transmission of such maladies. For many years Weissmann's theory that acquired characteristics were not transmitted to offspring held complete sway and was very generally accepted. Recently numerous authorities have been disposed to doubt the validity of such an assumption and J. G. ADAMI (*N. Y. Med Jour.,* June 1, 1901), after showing the difficulties in the way of accepting Weissmann's theory, suggests another seemingly reasonable cause for variation. According to Weissmann, the germ cell is made up of a vast number of ancestral plasms or "ids" derived from a long line of progenitors and as the ids in two fertilized ova are not identical, as the same series of ancestors do not contribute to the germ plasm of the two, so it is that individual variation originates. As segmentation goes on germ-cells are soon set aside and a certain series of ids passes into each cell as it becomes differentiated, the germ-cells receiving the full complement of all the ids. Wilson and Morgan have recently proven, however, that in a segmenting ovum if the cells be shaken apart at the two-, four-, eight-, or even sixteen-cell stage, each separated cell can be found capable of developing into an entire, if dwarfed, individual. Driesch suggests that the variation in structure of different tissues must be "a function of their relative position." Medical men are frequently confronted with conditions which are evidently inherited from ancestors that acquired those characteristics. In bacteriology, where generations are created so rapidly and hence the effect of external influences can be more fully and easily watched, there seems to be little doubt remaining that characteristics of a particular germ can be radically changed by environment and that this change is gradually transmitted to the progeny. The author suggests what he calls the "side-chain" theory of inheritance to explain present observations. He pictures the primitive idoplasm as composed of a mass of material each molecule of which is formed of a central ring to which there can be attached side-chains from which sundry side-chains can be detached without the central ring being destroyed. Thus, we suppose that there is a central basal substance to which become linked, more or less permanently, or more or less temporarily, those other secondary substances which, not in themselves protoplasmic, modify the constitution of the protoplasm as a whole. Two forces determine the structure of every cell in the body: (1) The previous influences acting upon its idioplasm and causing it to be of a particular chemical constitution, and (2) the position in which the cell finds itself in the body. The germ-cells naturally undergo very little change, but in terms of this theory inheritance depends upon the chemical constitution of the idioplasm, and variation, whether slight or extensive and leading to the formation of species, is the expression of modification brought about by environment.

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SATURDAY, JUNE 8, 1901.

THE MEETING OF THE AMERICAN MEDICAL ASSOCIATION.

THE American Medical Association assembled for its fifty-second annual meeting on Tuesday morning, June 4, 1901. Everything was auspicious for a most successful gathering. A very large delegation came by special train from New York, many Philadelphians were present and for a Western meeting the present session had a representative character that promises well for the future of the Association. With the next meeting at Saratoga to arouse still further enthusiasm there is no doubt that conditions are all that can be desired. Important changes in the organization of the Association were affected at this meeting that give every reason to hope for more perfect union for every worthy purpose.

The address of the President, Dr. Reed, was worthy of the opening of the new century. There was a broad grasp of the interests of the medical profession at large in this country that stamps the retiring President as a man of striking liberality of view. He has studied the needs of the Association deeply and has a practical remedy to suggest for many evils only too manifest. His expression with regard to the code and the unfortunate trouble over it was a masterpiece of good sense and impartial judgment. The President of the Association publicly recognized the good that had been done by the conduct of New York medical men, although it cost them their membership in the Association. He pointed out that with the beginning century so many scientific problems require solution and so many of the best interests of the profession are at stake, harmony on the basis of the most good out of the brotherhood must be achieved.

Among the practical features of the present meeting the discusssion in the Medical Section have been especially noteworthy. Blood conditions came in for the share of attention that recent advances in blood work demands. In the discussion of these disorders forty cases of pernicious anemia were reported from Johns Hopkins Hospital and many striking facts were brought out. The great preponderence of male sufferers from the disease is especially noticeable. The low place that such supposedly active causal factors as worry and pregnancy take was a matter of surprise considering how much the etiological significance of such conditions has been generally conceded. The question of oral sepsis as a cause of the disease had to be touched on. Hunter's theory has at least called attention to how often hospital patients have septic conditions in their mouths, although the presence of such form of germs is only a coincidence not a causal element in pernicious anemia.

The discussion on appendicitis brought out nothing new, except, perhaps, the fact that medical men generally now frankly concede the surgical nature of the disease in almost every stage. In this medical opinion has changed very much for the better in the last five years. The new century opens with the surgeon in the saddle on all appendicitis questions.

New light was thrown on the difficult problem of cirrhosis of the liver and some eminently suggestive remarks were made in the discussion. The question of the old traditional biliousness as a possible preliminary of cirrhosis of the liver is startling enough. Its greater frequency than has been generally supposed is also a suggestive reflection of the trend of modern medical thought.

The meeting has been a decided success. St. Paul may well be proud of the magnificent welcome she extended and the 2,000 medical visitors will not soon forget the pleasant time spent in the capital of the Northwest.

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A NEW INSTITUTION FOR MEDICAL RESEARCH.

NEWER developments in America have been leading more and more toward realizations in the field of scientific medicine. Conditions for the pursuit of higher research along medical lines cannot be said, up to the present, to have been overencouraging, but recent indications suggest possibilities in this direction whose outcome can be but tentatively estimated. A more intelligent appreciation of the needs along these lines by both the medical profession and broad-minded men generally justifies a hopeful forecast for the future.

An enterprise of extraordinary value and promise which will do much to further medical research work in this country is initiated by a corporation (Rockefeller Institute for Medical Research) which starts with a gift of $200,000 from Mr. John D. Rockefeller. Its headquarters will be in New York City. The object of this new creation is to furnish facilities for original study of medical problems, bearing more especially on those questions whose answer should be of practical application in the prophylaxis and treatment of disease. Judging from information at hand, it seems probable that emphasis will be laid upon the prophylactic side which after all is the most logical aim of practical medical research; and, with this view in mind, it has already been suggested that one of the problems whose solution would for the present prove of even greater benefit to humanity than many other studies is the relation of milk-supply to gastro-enteric maladies of children. Experiments will be made in the laboratories of several leading universities, and one person will be sent to Europe to report upon the results of similar studies there.

But this represents only one of the features of the plan in view. Definite problems will be taken up, and as the work develops it is hoped that a permanent staff of competent workers will be organized.

Looking at it from a still broader point of view, this institution will probably fulfil the desires of a large class of advanced workers who have been unable to pursue original investigation to the best advantage. Many a medical man has felt the assurance that he might make contributions to medical science of lasting value if he could only be relieved of the exhausting work of his regular routine and could devote all of his energies to advanced study and research with suitable support and congenial entourage. The new institution is expressly designed to meet this difficulty.

Remarkably good sense is, in our opinion, shown in the decision to "feel one's way" toward the ultimate realizations of the institution rather than start with a completely formulated scheme which of necessity would have to be revised as the indications suggested. It is assumed that the $200,000 gift is only a beginning, and that Mr. Rockefeller will be ready to provide the necessary buildings when the time is opportune and furnish whatever further funds may be required.

Under the management of a Board of Directors so admirably selected there can be no lack of confidence in the practical and beneficent results of this rich endowment.

THE ARMY CANTEEN.

MUCH adverse comment is certain to result from an expression by any important society of physicians of disapproval of the law now in force abolishing the canteen in the army of the United States: yet within the profession the propriety of joining vigorously in a memorial to Congress that shall set forth the desirability of re-establishing this institution must be readily recognized. The argument is neither long nor involved. The life work of the American physician is the care of the physical well-being of the American people, and when any question arises regarding a cause of action that will materially affect the health of a large body of our citizens, it is not only his privilege, but his duty to give expression to a positive opinion. That the abolishing of the canteen has seriously affected, and for the worse, the bodily soundness of a large number of people there can be little doubt. The testimony of the men in a position to observe, men of high standing, under no stress to misrepresent facts. for whom, indeed, the training of a life time has been that of the accurate observation and report of facts, is positive on that point. Their testimony is the more readily accredited in that it agree with the universally accepted narratives of past experiences. It has been a common experience for a prolonged campaign to bear in its train a wave of venereal infection that the disbanding of the armies has caused to roll through the

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length and breadth of the unfortunate nation for which they have fought. There are psychological as well as practical reasons why the soldier in time of war is both more indulgent of his sexual desires and less painstaking in the effort to avoid infection than the civilian, and similar influences operate to render the resorts of the camp-followers more deadly than the bawdy houses of the city, and as frequently as these facts have been noted has come the further observation that the drinking-places outside the camp lines have been the feeders for houses of assignation.

There is this double plea for the canteen from the medical standpoint. By its tendency it keeps the soldier within the camp, providing him with a mild stimulant of pure brew, instead of driving him outside the lines for the satisfying of that craving which arises from the nature of his calling, it preserves his system from the shock of the vile concoctions which are sure to be foisted upon him when the purveyors to his appetite know he can get nothing else, and saves him also from venereal infection by failing to make fierce assaults on his moral stamina and natural self respect. For, so repulsive are the great majority of female hangers-on at the outskirts of a military camp, that the lowest grade of the American soldier must needs have his senses dulled by something far more potent than canteen beer, ere he can bring himself to intimate association with them.

There was a strong representation of the medical branch of the army at the meeting of the American Medical Association at St. Paul this week. Unanimously and emphatically these men pleaded for the formal expression by the Association of a protest against the present law. Neither their motives, nor the statistics they gave in wealth of detail, were to be questioned. What action the Association will take in this matter is not known at this writing, but, whatever it is, we trust it will be taken in the full understanding that it will be welcomed and weighed and respected.

THE VALUE OF EXAGGERATION.

MOST ably has the subject of the doctor's fee been treated by Roberts (*Philadelphia Med. Journal*, May 11, 1901) and most thoroughly has he exposed many of the unethical and dishonest method by which it is increased. He scathingly denounces the system adopted by some consultants of offering commissions for patients and dividing fees received from them with the sender. The furnishing of testimonials to manufacturers of drugs for pecuniary or other recompense is justly condemned. The overcharging of the wealthy on the ground that they can afford to pay and of the estates of deceased patients, because the dead cannot complain, comes in for a share of denunciation, while the surgeon who will wait with the patient anesthetized and upon the table until his fee is paid is given the notoriety which he deserves.

The subject is decidedly unpleasant. Far more agreeable is it to discuss the effects of the abuse of alcohol by others, and to point out the resemblance between the so-called Christian Scientist and the guinea-pig on the ground that the latter is not a pig and that it did not come from Guinea. It is hard for a member of that profession which is composed of men whose relations to others most demand justice and a high moral sense to acknowledge the shortcomings of the fraternity. The family skeleton in the closet is not a congenial companion and the one exposed to view by Roberts is not the only one which the medical profession possesses. Advertising is one which has been given considerable notoriety. But what of exaggeration for the sake of impressing an actual or prospective patient? It is certainly one of the most common and most successful methods of enlarging a practice, but he must be careful indeed who escapes detection by others of the profession. We do not refer to self-glorification at society meetings, references to the extent of one's practice, or to others as the younger men; not to the publication of articles describing unique methods of palpating the impossible, of performing a whole series of operations through a microscopic incision of stated dimensions; not to seeking notoriety by receptions given to persons of note, or by newspaper interviews in which the speaker is more emphasized than the subject. These are merely phases of the advertising skeleton, showing various degrees of taste.

The form of exaggeration which is an indication not merely of lack of taste, but of dishonesty, appears in many shades. One of its best known examples is that of the physician who is invariably called just in time to prevent a threatened pneumonia or to save the patient's life; the man who diagnoses every case of bronchitis as pneu-

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monia and claims that he has never had a death from the latter disease. Closely allied is the surgeon who with equal frequency dwells upon the seriousness of every case and every operation, however trivial, and lives upon the reputation acquired by the brilliant results he attains in spite of his dark prognoses. He is usually not one who is diffident in regard to mentioning such results or the number of his operations. The patient is usually pleased by the idea that he is a most unusual or serious case and is the last to suspect exaggeration. A well-known surgeon called to treat a case, apparently a limited cellulitis of the ankle, pronounces it "blood poisoning" and evacuates a small amount of pus. At a second visit a similar spot appears upon the anterior aspect of the ankle and is also relieved by a slight incision. The patient is surprised that he feels so well with so serious a difficulty, but is assured that it is nevertheless an ominous malady. After three weeks of treatment he is cured; he then publishes to his friends, lay and medical, the wonders of his case. His professional friends say nothing, but has their opinion of the well-known surgeon been improved, and are they the more likely to call him in consultation? Again a patient with chronic appendicitis, recovering from an exacerbation, is advised to wait until the interval and then be operated upon by his own surgeon in Boston. A surgeon who is as well known as he can make himself is called as consultant. Without a word to the attending physician he informs the patient and his family that his condition is serious and immediate operation is necessary. He is removed to the hospital where the surgeon operates, is kept in bed for twelve days and then operated upon after the attack has subsided. Incidentally suppuration of a clean case occurs, but this point is not exaggerated and is referred to as a slight oozing from the abdominal fat. Will he be called in consultation by those who know his name?

And concerning those whose statistics are manipulated; if such liberties with strict truth are not evident upon the face of their articles there are almost invariably enough witnesses to compare the published accounts with what they have seen. And of what advantage is it to minimize the dangers of a procedure which one advocates? Suppose that an operator publishes a long series of operations under lumbar anesthesia and claims that the inconveniences are insignificant, the headache following so slight as to be negligible. Investigation will undoubtedly show that morphine has failed to relieve the suffering which the injection of cocaine caused, and the reporter's reputation has suffered by inaccuracy.

The tendency to specialize has become so strong that it has been said that diseases of the umbilicus is the only field that has not been filled. Convalescence is evidently the specialty of some physicians, for it is well known that there are those whose daily visits rarely terminate until the patient, in self-defense, is obliged to assume the responsibility of deciding that a cure has been accomplished for some time.

Where competition is so keen as in New York and exaggeration is so common a bait for the patient, the fact that such procedures are not ethical will have little weight with those most concerned. But after all honesty is the best policy. Murder will out, and eventually many a dishonest act will work untold harm to its performer.

ECHOES AND NEWS.

NEW YORK.

Inquiry Concerning Tuberculosis in New York State.—Local health officers throughout the State have been requested by the State Department of Health to furnish a list of the number of persons afflicted with consumption in their respective localities. The present immediate purpose is not to require or obtain a personal registry of these cases, or to institute a system of sanitary inspection or isolation of consumptives, but to obtain with such accuracy as it is possible to do, a record of the number of persons in each municipality who, at this time are subjects of this disease; to learn the locality of the disease, its distribution and surroundings. This accumulation of data will be fundamental to more exact plans for control of the disease.

New Buildings for Rochester Hospital.—The State Commission in Lunacy has approved of plans for a new group of buildings at the Rochester State Hospital to cost about $230,000. This will afford additional accommodations for 500 patients.

New Appointments Medical School Columbia University.—Drs. Charles H. Peck, Warren S. Bickham, and Alfred S. Taylor were appointed assistants in surgery. The winners of the Jacob Harsen Prize this year are Charles Smith, Philip Van Ingen, and William Darrach.

A New Journal.—A copy of a new journal devoted to the interests of psychiatry has just arrived. It is called "The Journal of Mental Pathology," and is edited by Dr. Louise G. Robinovitch. On the staff of contributors

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we notice some of the most distinguished men of medical science.

Gift to Medicine.—Mr. John D. Rockefeller has given $200,000 to found an institute for medical research, with its headquarters in New York City. It is generally believed that this will lead to a still more adequate endowment when the time comes to erect a permanent home for the work. The direction of the new institution has been entrusted to the following distinguished gentlemen: Dr. William H. Welch, of Johns Hopkins University; Dr. T. Mitchell Prudden, of Columbia College; Dr. L. E. Holt, of the same institution; Dr. C. A. Herter, of New York University and Bellevue Medical College; Dr. Theobald Smith, of Harvard; Dr. H. M. Biggs, of the New York City Board of Health, and Dr. Simon Flexner, of the University of Pennsylvania.

New Buildings for Loomis Sanitarium.—A new chapel and buildings at the Loomis Sanitarium in Liberty, N. Y., were dedicated last week. The chapel is the gift of Mrs. Loomis, in memory of her husband, Dr. Alfred Lee Loomis, after whom the sanitarium is named.

Health Authorities After Unclean Milkmen.—The health authorities of Flushing, L. I., are making a crusade against milkmen who are suspected of violating the sanitary laws. Thirty-two cases of alleged violations recently came up in the local court. It is alleged by the authorities that the cans used by these men were found in a dangerously unclean condition.

Smallpox in New York City.—Cases of smallpox continue to be reported to the Board of Health. Seventeen deaths occurred from the disease last week. Incoming vessels, especially those from Naples and other Italian ports, are being held in quarantine for precautionary reasons.

Home for Convalescent Patients.—On May 27th St. Eleanor's Home for Convalescent Patients, which is situated on a high hill between Scarsdale and Tuckahoe in Westchester County, was dedicated by Archbishop Corrigan. The home will be open to convalescent patients from the hospitals of New York, who can remain there in charge of doctors and nurses and enjoy the country air until they are cured.

CHICAGO.

Resignation of Dr. Futterer.—Dr. Gustav Fütterer, who for two years has been Professor of Pathology, at the Northwestern University Medical School, has resigned and his resignation has been accepted by the Trustees. As the school closes this week for the summer vacation, no immediate action will be taken in the matter of selecting a successor.

Commencement Exercises.—These exercises were held by the College of Physicians and Surgeons on May 29th. The graduates numbered 160. The Doctorate Address was delivered by Dr. Joseph M. Matthews, of Louisville, Kentucky. At the banquet of the Alumni Association of the College in the evening, Dr. Wm. Allen Pusey acted as toastmaster. President Draper, of the University of Illinois, responded to the toast "The University." The Rev. W. A. Burch made some remarks on "Physicians, by a Clergyman." Dr. Harold N. Moyer, of Rush Medical College, responded to the toast, "Our Friend, the Enemy." He commented on the equipment of Rush Medical College, as well as that of the College of Physicians and Surgeons, saying that both were incomplete. Dr. Alexander Hugh Ferguson spoke on "Failure and Success in Surgery."

Election of Dr. Fenger.—At the recent meeting of the Military Surgeons, held at St. Paul, Minn., Dr. Christian Fenger was elected honorary member of the Association.

Appointment of Dr. Dudley.—Dr. E. C. Dudley has been appointed a member of the Chicago Board of Education.

Election of Dr. Beck.—Dr. Joseph C. Beck has been elected Professor of Diseases of the Ear, Nose and Thoat, in the Chicago Eye, Ear, Nose and Throat College.

Appointments of Drs. Dickerman and Beard.—Drs. Charles H. Beard and Edward T. Dickerman have been appointed on the staff of the Illinois Charitable Eye and Ear Infirmary.

Donation by Marshall Field.—Marshall Field has given the Chicago Home for Incurables ten lots adjoining the ground now occupied by the home. This land is valued at between $40,000 and $50,000.

American Gynecological Society.—This Society has just closed its twenty-sixth annual meeting, it being one of the most interesting in its history. The papers were of a high scientific order and the discussions spirited. A very full report of the proceedings of this meeting will appear in a future issue of the MEDICAL NEWS.

Smallpox Situation.—The thing most dreaded by the Department of Health is a change in the type of the smallpox. If this should occur, serious results are inevitable. The disease has been so mild that the contagion must be spread to an unknown extent from cases that have not come under observation. No person who is not positive as to vaccinal protection can afford to postpone vaccination before the weather gets too hot for the operation, and before the disease changes to a malignant character.

Hospital Gift Refused.—It is said that the offer of two Swedish-Americans in San Francisco to give $25,000 each for the erection of a hospital in Lakeview, or other suitable location in Chicago, has been refused by the

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Swedish Evangelical Mission Board unless the hospital is established in Bowmanville.

GENERAL.

Leprosy in the United States.—According to scientific investigations directed from Washington for several months, there are at least 275 cases of leprosy in the United States. That number have been reported, but it is thought probable that the real number is nearer a thousand. Seventy-four of the known cases are in New Orleans, chiefly among the Italian population. There are twenty-three in Minnesota, mostly among Scandinavians in the rural settlements. There are fifteen cases in North Dakota, and two in South Dakota, among the same people. So far as has been ascertained, there are none in Michigan or in Indiana; Chicago has five cases, New York six, Boston none. It is the intention of those who are compiling the figures to make a report to Congress, including such recommendations as may seem warranted. One recommendation will be for the erection of two large Government hospitals for lepers, one in the South and the other in the North. Eminent physicians have at different times been before committees of Congress in the interest of the erection of leper hospitals, but nothing came of these visits, the Government having no reliable data covering the prevalence of the disease.

American Laryngological Association.—The following officers for the next year were chosen: President, J. W. Farlow, of Boston; first vice-president, J. W. Gleitsman, of New York; second vice-president, D. Braden Kyle, of Philadelphia; secretary and treasurer, James E. Newcomb, of New York City; librarian, Joseph H. Bryan, of Washington; member of council, Henry L. Swain, of New Haven. Papers were read by Dr. Gleitsman, Dr. T. R. French, of Brooklyn; Dr. F. H. Bosworth, of New York; J. H. Goodale, of Boston; C. H. Knight, of New York; Carl Seiler, of Philadelphia; W. K. Simpson, of New York; Dr. A. W. Watson, of Philadelphia; Dr. Farlow and Dr. Wyatt Wingrave, of New York. It was voted to hold the next annual meeting in Boston about June 1, 1902.

The Military Surgeons' Convention.—The first session of this year's convention was held May 30th, at St. Paul, Minnesota. The convention was called to order by Brig. Gen. John F. Fulton of that city. Governor Van Sant, Mayor Smith, and Judge E. A. Jaggard delivered addresses of welcome. Dr. A. J. Stone, the President, delivered the annual address.

Increase in Vivisection.—The recent issue of a Parliamentary paper containing accounts of a number of experiments performed on living animals during the vear 1900, under licenses, has raised the usual outcry from the anti-vivisectionists, who point to "thousands of tortured innocent dumb brutes," etc., but the report of the inspector under the Cruelty to Animals Act shows there is no ground for this complaint. The total number of licenses was 247, of which sixty-three did not perform experiments. The licenses were recommended by men of the highest scientific standing. The total experiments were 10,830, an increase of 2,370 over 1899. The appearance of the bubonic plague is responsible for part of this increase. George D. Thane, the inspector under the Cruelty to Animals Act, says: "It is of the greatest importance that this disease should be recognized at the earliest possible moment. This can only be done with certainty with the aid of inoculations into animals. Two new licenses, which were granted in 1900, expressly allow necessary experiments in localities where infection is apprehended."

No "Mental Therapeutics" in North Carolina.—The Secretary of State of North Carolina has refused to charter a new College of Science and Healing"—the first institution of the kind proposed in this State. In taking this position he is fortified by an opinion of the Attorney-General of North Carolina, and the terms of the law governing the issuing of licenses to practise medicine in this State.

New President of Johns Hopkins University.—Prof. Ira D. Remsen, who since the founding of the Johns Hopkins University in 1876 has occupied the chair of chemistry, will be the future President of this institution to succeed Dr. Daniel C. Gilman, resigned. This decision was reached by the trustees at a meeting held June 3d. Dr. Gilman's resignation will take effect this month. Prof. Remsen will enter upon his duties as President at the beginning of the academic year in September.

Mississippi Not Polluted.—In an exhaustive report filed with the State Board of Health last week Dr. John Long, professor of chemistry in Northwestern University, special investigator for the State, asserts that for a distance of forty-two miles north of St. Louis there is absolutely no trace of sewage in the waters of the Mississippi. Researches and chemical tests of waters of Illinois and Mississippi Rivers cover a period extending back before the drainage canal was opened, and show that the effect of the opening of the canal was harmless.

Cleveland's Smallpox Cases.—According to a dispatch from Toledo a sensation has been sprung in Ohio over a public statement by the Health Commissioner of Buffalo. He says there was recently a secret meeting of the health authorities of five of the chief cities on the lakes, generally understood to be Toledo, Chicago, Toronto, Buffalo and Detroit, at Cleveland, when a demand for better smallpox sanitation in Cleveland was made. Cleveland has had this year nearly one thousand cases and Buffalo, in view of her big show, is alarmed. It is suggested that a strict quarantine be demanded at Cleveland and that for

a time no trains be permitted to stop and land or take on passengers there and that the same precautions be arranged with regard to the steamboats. The authorities of Cleveland are said to be very much wrought up over the possibility of a general demand for such action.

Plague Case Near London.—At Willesden, a suburb of London, a man supposed to be suffering from the lightest form of bubonic plague was discovered last week. Persons with whom he had come in contact were detained, but have now been released. The patient himself is now under observation.

Roentgen Society of the United States.—The preliminary announcement of the Roentgen Society has been sent out. The following gentlemen are the present officers: President, Dr. Heber Robarts, of St. Louis, Mo.; First Vice-President, Dr. G. P. Girdwood, of Montreal, Canada; Second Vice-President, Dr. H. P. Bender, of Brooklyn, N. Y.; Secretary, Dr. J. Rudis-Jicinsky, of Cedar Rapids, Iowa. The second regular meeting of the Society will be held in Buffalo, N. Y., September 10-11, 1901.

Plague Spreading in the East.—In spite of the fact that the plague is spreading in the Punjab, where it has already invaded several hundred villages, the repressive measures have so dangerously irritated the natives that the Government has been obliged to order a wholesale relaxation of the plague regulations. Sir Henry A. Blake, Governor of Hong-kong, reports to the Colonial Office that during the week ending May 25th there occurred in Hong-kong 187 deaths from the bubonic plague.

Yellow Fever and the Mosquito.—Dr. Finlay, son of the originator of the mosquito theory of yellow-fever propagation, arrived in this country this week from Havana. Dr. Finlay, speaking of his father's work, is reported to have said: "My father, when he discovered that mosquitoes spread yellow fever, caught one of the pests, and, after starving the insect for two days, allowed it to bite himself. This test, however, was not a good one, as he is an immune, and then the same test was applied to a subject who was susceptible to the disease. The latter contracted the fever in this way, and then hundreds of similar experiments followed, and all the subjects developed yellow fever. Dr. Lazier, one of the Yellow-Fever Commission, who died under the experiment, allowed himself to be bitten by five or six mosquitoes, and in that way got an unusually heavy inoculation. As the experiments proceed, it is believed that in time a virus obtained from either a patient or a *Culex* will be procured, which, when modified, can be used as successfully as is bovine virus for smallpox."

Obituary.—Dr. John E. Comfort, one of the best-known physicians in the Borough of the Bronx, and a member of the New York County Medical Society, died at his residence on May 29th. He was born in St. Louis, Mo., October 6, 1837, graduated at the Albany Medical College in 1864, and entered the United States Army Jan. 19, 1865, as Assistant Surgeon of the Sixtieth New York State Volunteers. For more than thirty years he had a large practice in the upper wards of the city and served twelve years as Inspector on the Board of Health.

Dr. T. A. Bowling, of Hammondsville, Ky., was killed May 29th by an accident.

Dr. John A. Feeny, sanitary superintendent of the borough of Richmond and one of the leading physicians of Staten Island, died May 31st at his home on Beach Street, Stapleton, Staten Island. He had been seriously ill for three weeks with a complication of diseases. Dr. Feeny was born at Stapleton in September, 1845, and was the second son of Dr. Joseph Feeny. He was graduated from the medical department of the University of New York in 1866.

Dr. Seth B. Sprague died at his home in Jersey City, June 5th, from a complication of diseases. He was born at Dexter, Me., Jan. 12, 1840, and was graduated from Bowdoin College. He removed to Jersey City in 1890 and built up a large practice. His eldest son is Dr. Ezra K. Sprague of the United States Marine Hospital Service.

CORRESPONDENCE.

OLLIER MONUMENT FUND.

To the Editor of the MEDICAL NEWS:

Dear Doctor: Some time since you kindly published an appeal of a committee soliciting subscriptions for a monument to the late Prof. Ollier in Lyons. As Treasurer of the Committee, I beg that you will publish this letter in your journal in order to inform the profession that I have received the sum of $649.00 from 103 subscribers. I have forwarded the same, less $4.60 for postage, printing, etc., to Dr. G. Mondan, 27 rue Jarente, Lyons, France.

W. W. KEEN, *Chairman.*

1729 Chestnut St., Philadelphia, June 3, 1901.

OUR LONDON LETTER.

[From Our Own Correspondent.]

LONDON, May 25, 1901.

AN UNEVENTFUL WEEK—ANTIVIVISECTIONISTS IN COUNCIL—THE TWO SECTS OF ANTIVIVISECTIONISM—MR. STEPHEN COLERIDGE AND MISS FRANCES POWER COBBE—THE "ABOLITIONIST"—THE VALUE OF LAWSON TAIT'S TESTIMONY—A STORY OF SIR WILLIAM GULL.

"ALL's well with the world," as Browning's passing Pippa sings—at any rate, with the medical world here for the moment. The Committee appointed to inquire into the affairs of the

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National Hospital for the Paralyzed and Epileptic, where the medical staff and the lay governors are fighting for the crown, appears to be going about its business in a workmanlike manner; the Committee which has taken in hand the reconstruction of the British Medical Association is considering whether anything of a revolutionary character can be done in face of the fact that of a membership of nearly 20,000 scarcely 1,000 have been at the trouble to vote at all; the reformers of the medical service of the army have for the present ceased to trouble; and the organizers of the Tuberculosis Congress have after much bickering and intriguing practically come to an understanding.

The past week, therefore, as far as strictly medical affairs are concerned, has been uneventful. One has, therefore, to go outside the realm of medicine to find matter for a letter. But one has not to go very far afield, for the antivivisectors lie just outside our frontier, and they have been gathering in force and like their friends, the dogs in the hymn, barking and biting as 'tis their nature to. Last week the National Antivivisection Society held its annual meeting, at which the proceedings as usual took the form of a debauch of emotional excitement over the supposed tortures inflicted on animals in biological laboratories. If one may judge from the character of the assembly the antiscientific movement finds no support either in the brain or the heart of the country, for as far as can be gathered it was attended by no one of any intellectual importance or whose name is known in association with philanthropic work. Our antivivisectors are mostly of that curious type of humanity which finds its embodiment in the phrase of a distinguished American writer, in "long-haired men and short-haired women." One has only to see them to recognize the outward and visible signs of the crank. If Lombroso's view is right that there is a close affinity between neurosis and genius, there must be a vast number of latent Shakespeares and Goethes among the antivivisecting fraternity.

There are two main sects among our vivisectors which hate each other with an almost theological intensity. One of these is represented by the National Antivivisection Society aforesaid, the moving spirit of which is Mr. Stephen Coleridge; the other is the British Union for the Abolition of Vivisection, which derives its inspiration from Miss Frances Power Cobbe. Mr. Coleridge is a son of the late Lord Coleridge, Lord Chief Justice of England, in whom the antiscientific bias was very pronounced. Some revelations of his home life which were made in the law courts a good many years ago showed that however kind he may have been to animals, he was not always tender to his own flesh and blood. Edmund Yates (whom he put in prison and who may, therefore, have been a little prejudiced) never referred to him in the London *World* except as the "Roman Father." Neither the present Lord Coleridge, who practises at the bar, nor his brother Stephen, also a lawyer, is particularly popular; they are warm champions of the rights of animals, but their manner does not give the impression of a burning love of their own species. And the virulence with which Mr. Stephen Coleridge denounces all who say a word in defence of vivisection, the subtle misrepresentation with which he seeks to damage all hospitals which have vivisectors on their medical staff, and in particular the rancorous abuse which he loses no opportunity of flinging at that great benefactor of mankind, Lord Lister, would lead one to believe that he holds human suffering and human life cheap compared with even temporary inconvenience to an animal.

Vivisection in this country is already surrounded by so many restrictions that we are falling more and more behind the rest of the world in the matter of research. Licenses of a complex character have to be obtained from the Home Secretary and all laboratories are subject to Government inspection. The antivivisectors say the inspection is a farce and hint that the Home Office is in collusion with the experimenters to conceal the horrors of the physiological torture chamber. But those who are acquainted with the facts know that the inspection is a serious business and that violation by a worker of the terms of his license would lead to its revocation; further, that any act of needless cruelty proved against him would bring him within the clutches of the law.

The antivivisectors, however, will be satisfied with nothing less than the complete abolition of all experimentation on animals. It is on the question of the way to secure this result that they have fallen out among themselves. Mr. Stephen Coleridge is a political tactician and will take what he can get while reserving of doing like Oliver Twist and asking for more, when the time seems ripe for such a demand. Miss Frances Power Cobbe, however, insists on a policy of what Strafford in governing Ireland called "thorough." She will not tamper with the accursed thing, and if she could have her way would doubtless have all vivisectors and their supporters burnt and their ashes scattered to the winds. Miss Cobbe's pen and tongue used to be ceaselessly active in the denunciation of biological research, and her language was like that of the invalid in one of Bret Harte's poems "painful and frequent and free." But some eight or nine years ago Mr. Victor Horsley took the field against her and proved himself a much superior master of vituperation. Thus beaten with her own weapon, Miss Cobbe retired into the shelter of the "silences" of which the world used to hear so much from Carlyle. But unchilled by the winter of advanced age the hatred of vivisection still rages in her breast, and disdaining compromise she insists on its absolute suppression. The British Union for the Abolition of Vivisection of which she is the prophetess has as its mouthpiece a journal entitled the *Abolitionist* which not long ago made the exhilarating discovery that vivisectors torture the animals used for experiment for the same pur-

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pose that "Jack the Ripper" mutilated his victims. Vivisection is in fact, according to this charitable theory, a peculiarly revolting form of Sodism.

Among the few medical authorities whom the antivivisectors cite to give evidence in their favor is Lawson Tait. I see he is quoted by their brethren on your side of the water too. It may be well, therefore, to indicate the value that should be attached to his testimony in the matter. Lawson Tait was a daring surgeon and a brilliant operator within his own limited sphere of practice; but he was also a master of the art of *réclame*, and he knew well how to tickle the ears of the groundlings. Very likely his dislike of vivisection was sincere enough, but his conviction of its uselessness was doubtless greatly intensified by the fact that Spencer Wells had said that it was by experiments on animals that he had learned how to perform ovariotomy successfully. It was enough that Spencer Wells should say a thing for Tait to say the opposite. Moreover, to speak plainly, Tait had in him much of the bully and the coward. He was blusterous in assertion, but often strangely backward in proof. At a Church Congress held at Folkestone some years ago, a debate on vivisection figured prominently on the program and Lawson Tait's name was "billed" for an address on the subject. When, however, it was announced that Victor Horsley was to be on the platform, Tait's controversial valor oozed like that of Bob Acres out of his finger ends, and he failed to put in an appearance. It was rather a habit of his to send a bold challenge—to a fight in the lists of the law courts or elsewhere—and when it was taken up by the threatened party, to find it convenient to subside. Lawson Tait had, as already said, his good points, but in regard to experiments on animals the value of his testimony may most politely be expressed in the language of the tailor who said Falstaff must procure him some better assurance than Bardolph; he liked not the security.

In a book recently published by Canon Fleming, a popular preacher in high favor with the Royal family, there is a story about the late Sir William Gull which is characteristic of that most diplomatic of physicians. Gull was with the present King, then Prince of Wales, during the attack of typhoid fever which nearly cut short his career thirty years ago. The Duke of Cambridge went to Sandringham, and was about to ask Sir William about the patient, when the physician began drawing on the back of a telegram. "What are you doing?" asked the Duke. "I am drawing a picture, Sir, and underneath I purpose writing, 'Never speak to the man at the wheel.'" Gull's tact gave him a great advantage over colleagues who knew just as much or more than he did. One of the best instances of this is the way in which he satisfied the inconvenient curiosity of the wife of a well-known financial leader in Israel. The millionaire was suffering from Bright's disease for which he had for some time been attended by the late Sir Richard Quain. It was thought advisable that the anxious wife should not know the exact nature of her husband's disease, and she on her side made the lives of his physicians burdensome to them by her persistent cross-questioning. She suggested that Gull should be called in, but the doctors in possession did not relish the idea of having so powerful an auxiliary forced upon them. At last, however, they could no longer decently resist. Gull came and, as usual, saw and conquered—not the disease but the lady. After he had examined the patient the wife said to the great man that none of the others would tell her what was the matter with her husband, and she pretty plainly hinted that she did not believe they knew. She gave the oracle to understand that she looked to him for an answer. It might have been said of Gull, as it was of Lord Chancellor Thurlow, that no man could ever have been so wise as he looked; and in this critical situation he looked as wise as one of Minerva's owls. "Madam," he solemnly replied, "your husband is suffering from a cachexia!" "There" said the lady "I *knew* Sir William Gull would know." So the services of the other physicians were politely dispensed with and Gull was left master of the field. Quain, who, like the incredulous Scotchman of the legend, was something of a "leear himsel'," used to relate this story as showing Gull's superiority in the art.

TRANSACTIONS OF FOREIGN SOCIETIES.

German.

DILATATION OF THE ESOPHAGUS—MULTIPLE PERIOSTITIS — DIAPHRAGMATIC HERNIA — PULMONARY SYPHILIS—RADIOSCOPY—GIANT-CELL DEGENERATION OF THE HEMOPOIETIC ORGANS—EPIDEMICS OF CEREBROSPINAL MENINGITIS—HYPERTROPHIC HEPATIC CIRRHOSIS.

STRAUSS, at the Nineteenth Congress for Internal Medicine, Berlin, 1901, showed an esophagus from a twenty-nine-year-old man presenting at the middle and lower thirds a curious idiopathic sacculated dilatation, which measured fifteen centimeters in its smallest and thirty centimeters in its largest dimension. So far as the pathogenesis of this condition is concerned he laid stress upon the important effect of arrest of post-fetal development, especially in the mucosa, and of various early lesions of the mucosa which might contribute to the onset of the enlargement. He then showed several instruments designed to diagnose such dilatations of the lumen of the viscus.

VON JAKSCH exhibited the bones from a case of multiple periostitis observed in a young girl and belonging very probably to the category of blood diseases, perhaps of the myelogenous leucemic type. In a few of the bones, especially the radius, the process healed during the course of the disease. Roentgen-ray photographs showed the generalized periosteal lesions. During the course of the disease the mononuclear neutrophile cells continued to increase in a regular

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ratio, while the polynuclear proportionately decreased in number. The eosinophile leucocytes became more numerous just before death. A little later large nucleated red cells began to appear and then later polychromatic degenerated forms. At the autopsy the spleen was found to be enlarged and the bone-marrow in a few bones more or less atrophied.

STRUPPLER presented a young man who for six and a half years had had diaphragmatic hernia, following traumatism. The affection was diagnosticated early, and had on one occasion been mistaken for pyopneumothorax, as is so common in such cases. The author then demonstrated the peculiar physical signs of the patient. Skiagraphs served to substantiate the signs. It was evident that the stomach, great omentum and some of the small intestines had come through the diaphragm into the left thorax and were occupying its central portion. The symptoms were more or less pain and distress on eating.

HAUSEMANN raised the question whether or not it is possible to diagnosticate syphilis of the lungs distinctly as such, as contradistinguished from tuberculosis and its cheesy deposits. Since Virchow first raised the point it has remained an unsettled question. The difficulty comes in when there is nothing characteristic especially about the lesion as seen on the autopsy-table. We have the hepatization. The microscopic appearance may be largely similar, but the absence of the bacilli in the sections and the failure of animal-inoculation will strongly suggest that syphilis is the underlying disease, especially if there are other signs of it in the viscera.

LEVY-DORN discussed the problems of Roentgenoscopic dermography, stating that the error of all radioscopic pictures is that one cannot see just what is the condition and position of the organs at the time of the exposure. If the photographic plate is laid directly upon the skin this difficulty is at least in part overcome. For a long time he has endeavored to reduce this to practical and methodical solution. His early experiments were aimed to determine the depth from the skin in a vertical direction of deeply situated bodies, like the viscera and foreign substances. He finally demonstrated a new apparatus which in both the recumbent and the erect position of the patient permits of accurate estimate of the position of the viscera, such as the heart and diaphragm, by a simple parallel displacement.

MICHAELIS described a case of giant-cell degeneration throughout the blood-producing organs accompanied by a curious condition of the blood. The patient was a woman fifty years old who had gone through an attack of the grip a few months before, but had never fully regained her strength, because her appearance was always cachectic, although upon admission to the hospital she was not yet emaciated. Upon physical examination, the spleen was found to be very much enlarged, but the lymph-nodes throughout the body appeared to be normal. The blood examination showed a moderate increase in the white blood-cells (1:220), the lymphocytes were very numerous (75:100), the neutrophilic myelocytes were also increased to 7:100, nucleated red cells were found at first but later apparently entirely disappeared. There was at no time any hemorrhagic diathesis. At the autopsy the spleen was found to be extremely soft, the lymph-nodes nowhere were swollen, the bone-marrow was red but not very soft, and the bones themselves were not altered. Microscopically the giant-cells of the bone-marrow were much increased in number and they were found invading the liver and the spleen. In each of these two organs were also found several small-cell infiltrations. Perhaps it was an example of some disease of the bone-marrow with augmentation of the giant-cells which escaped into the blood and invaded the other organs of the body. Certainly the woman had some form of leucemia.

JAEGOR spoke of the spread of epidemic cerebrospinal meningitis. While earlier there are no reliable statistics concerning the contagiousness of this disease, the epidemic in the Thirteenth Imperial Wurtemburg Army Corps has furnished a good field for observation. In addition to the bacteriological features of lumbar puncture, which can now be observed in almost all cases, the results of modern statistics must not be forgotten. The results of statistics will be best when the various laws governing contagious diseases are brought into agreement. His own tables prepared from the German records point to rather a good outlook as to the absolute communicability of this disease. In certain parts of the world, especially in the densely populous sections of New York and Massachusetts, the disease in an epidemic type seems to be settled and almost endemic.

HIRSCHBERG spoke of the operative treatment of cirrhosis of the liver which has always been regarded as an incurable disease, especially in the hypertrophic forms. He submitted the history of one case, a man, fifty-one years of age, who had been suffering a long time from an actively progressive cirrhosis so that the liver had hugely increased in size. The theory of the disease which the author holds is that ordinary hypertrophy is not at the expense of the parenchymatous cells of the viscus until later in the disease. The fibrous tissue increase, however, is of such a character that the intravisceral gall-passages and their radicles become more and more obstructed, until finally a real retention of the bile is present with secondary cell-degeneration and jaundice. With such a standpoint for explaining the sequence of lesions and symptoms, it follows that any operation must seek to relieve this retention of the bile. In his patient he exposed the liver and made a long, deep cut in its surface and found that a copious evacuation of the bile took place for five days after the procedure and continued in slowly decreasing quantity for a month. Spontaneous cure of the fistula followed. One year after this treatmen the man had gained twenty-five pounds and was in excellent condition.

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SOCIETY PROCEEDINGS.

AMERICAN MEDICAL ASSOCIATION.

Fifty-Second Annual Meeting, Held at St. Paul, Minn, June 4-7, 1901.

[Special Telegraphic Report.]

GENERAL SESSION.

FIRST DAY—JUNE 4TH.

AFTER the call to order the meeting was opened with prayer by Bishop H. B. Whipple of St. Paul, Minn. An address of welcome by Hon. R. A. Smith, Mayor of St. Paul, gave medical visitors the freedom of the city. The feature of the opening session was a magnificent address by the President, Dr. C. A. L. Reed of Cincinnati. (See page 885.)

Dr. Pennington of Chicago presented the portrait of Dr. N. S. Davis of Chicago one of the founders of the Association and a former president. At his suggestion a committee was appointed to obtain without cost to the Association the portraits of other ex-presidents.

Dr. George H. Simmons, the Secretary of the Association, reported the membership at 10,600, an increase of nearly 1,600 during the year, the largest increase in its history. Dr. L. D. Bulkley of New York reported for the Executive Committee that hereafter the number of papers to be read before Sections would be limited. The resolution proposed by him that the title of no paper would be announced if an abstract of it was not furnished by the writer was adopted.

For the Board of Trustees, Dr. Happel of Tennessee reported that the total receipts of the Treasurer of the Association for the year were $131,787. There remains in the treasury $31,864 and besides $10,000 has been spent for machinery for the *Journal* of the Association. The plant of the *Journal* and money on hand is equal to more than $50,000. So far this year advertisements in the *Journal* have paid an average of $1,000 per week, although a new policy of limiting advertisements strictly to such drugs as are not advertised in public newspapers has been adopted. Dr. Happel moved that the officers of Sections should be made responsible for the publication of papers from their Sections. They should be given power to reject papers deemed unworthy of publication and also to compress papers that are too lengthy. This resolution was adopted unanimously.

H. I. E. Johnson of Washington for the Committee on Legislation reported that the Senate bill on Antivivisection had been effectually killed during the last meeting of Congress and its resurrection now seemed hopeless. He suggested the adoption of a motion as to standing committees in each State to influence members of the Legislature.

SECTION ON PRACTICE OF MEDICINE.

FIRST DAY—JUNE 4TH.

Advances in Medicine.—The session was opened by Dr. Anders of Philadelphia, Chairman of the Section, who delivered the annual address. The advances in medicine in the present century, he said, had come mainly in diagnosis. They had been great and accomplished much good for medicine. Of late years there had been more interest than before displayed in the development of therapeutics. This had in some instances degenerated into a too great leaning towards new remedies. Novelty has often been the only reason for prominence obtained by certain drugs. Of this the profession has reached a realization. Members of the profession who introduce new drugs after only very limited experience with them no longer enjoy the prestige they had. This is as it should be.

Recent Therapeutics.—The most encouraging thing about recent therapeutics is the marked tendency to revert to common-sense methods in the employment of physical and physiological means for the treatment of diseases. Recently renewed interest has been awakened in dietetics and hydrotherapy. Dietetics especially constitutes a most promising field. The more the new century devotes itself to it, the surer will be our absolute progress in the cure of disease. This must after all be the main object of the discussions on practice of medicine, although the tendency of late has been to relegate matters of therapeutics to the special Section on that subject. This is unfortunate and must be remedied by the greater attention of the medical section to practical subjects.

Appendicitis.—Dr. John B. Deaver of Philadelphia said that appendicitis is an eminently proper subject to be discussed before the Medical Section since most frequently appendicitis came first for treatment to the medical practitioner. The appendix is more liable to destructive inflammation because it is an organ now in course of disappearance; it has a small canal in a long structure and it is intimately in contact with large accumulations of microbes in the intestines. The bacillus coli communis, an almost constant inhabitant of the intestinal tract, is especially liable to set up inflammation of the appendix if for any cause it becomes imprisoned in that structure. As soon as a condition develops in any hollow viscus in which evacuation becomes impossible, operation is absolutely indicated. This is true of the bladder, the bowels, the stomach. As soon as this condition is established these cases become surgical in character and pass out of the physician's hands. This is just what occurs in appendicitis in all its forms.

Types of Appendicitis.—The disease may be acute or chronic. Acute appendicitis may be

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catarrhal, interstitial, ulcerative or gangrenous. Chronic appendicitis may be catarrhal, interstitial, or, finally, obliterative. It is this last type that has constituted the supposed justification for the medical treatment of appendicitis. It is argued that Nature often obliterates the appendix and so brings about a spontaneous cure in many cases of appendicitis. This argument is founded on an illusion. The cases of obliterative appendicitis are extremely rare. In thousands of cases in his personal experience Dr. Deaver has seen obliteration of the appendix occur only in less than a dozen cases. To wait and hope for this one chance in hundreds is to abuse the patient's confidence and waste precious life-saving opportunities.

Nature's Protective Efforts.—In these cases such are often sadly misdirected. She means well but accomplishes very little. Even when she walls off infective material, it is but temporizing with a deadly enemy. Abscess formation does not ensure the patient from sudden and unexpected peritonitis on very little provocation. When rupture of the abscess into a hollow viscus like the bladder takes place the patient's condition is only temporarily improved and only very slight protection against fatal peritonitis is afforded.

Symptomatology.—In all abdominal affections the first requisite for safe diagnosis is to exclude appendicitis. This is a precious rule for practical life. All colicky pains in the abdomen are to be suspected of connection with the appendix. The pain need not be localized at McBurney's point. Practitioners deceive themselves and incur great risks for their patients by placing any dependence on the belief that pain at McBurney's point is necessarily present in appendicitis. If the type of the appendix is in the pelvis the pain will often be referred to the vesical region and may be distinctly in the median line. In certain of these cases reflexes are sent down along the spermatic plexus of nerves and there may be retraction of the testicle precisely as in stone in the kidney. This makes differential diagnosis extremely difficult. Operation may have to be done on suspicion, but will be justified if there is any localized tenderness.

Abdominal Tenderness.—This is an extremely important symptom. If there is an area in the abdomen tender to the touch it indicates localized inflammatory disturbance. If the tenderness is exquisite and limited to a small area, it means pus formation. This indicates operation. To discover this acute tenderness palpation must be carefully performed beginning at a point well distant from the suspected site of inflammation. To palpate roughly is not only to obscure the condition, but it may do positive harm by rupturing fine adhesions.

No Symptoms Pathognomonic.—Much study had been given to the question of the time to operate. The temperature was said to provide valuable indications, but it is untrustworthy. Pus may develop rapidly in a walled-off space without temperature. The pulse is no surer in its indications. Blood-counts give information, but do not decide the question. In fulminant cases leucocytosis fails to develop. In many cases the leucocytosis will not be pronounced, yet surgical experience shows the operation needed.

Differential Diagnosis.—As to the kidney-stone and gall-stone, the question of differential diagnosis becomes most difficult. In dubious cases, operate. There is much less danger in exploratory operation than in delay. In women extra-uterine pregnancy and ovarian disease are difficult of differentiation, but as they need operation quite as much as appendicitis the surgeon has less disquietude. Typhoid fever in its incipient stages often simulates appendicitis so closely as to make differentiation practically impossible. The hope is in the history of possible exposure and the prevalence of typhoid at the time the symptoms declare themselves.

Cured Cases.—These are illusory. There is always a focus left in which the tissues are less resistant. Subsequent attacks are almost sure to occur. No one, no matter what his experience, can foretell the course of appendicitis or how severe the next attack will be. To permit pus formation without surgical intervention is almost a crime. The ordinary medical treatment for appendicitis is little better than high-grade Christian Science. The interval is an indication for operation. Early operation is life-saving. Much more harm is done by delay than by operation.

Value of Leucocytosis.—Dr. De Lancey Rochester of Buffalo said that when leucocytosis occurs there is surely pus formation. When there is hesitancy as to the necessity for operation, this gives a decisive indication. In a recent case where parents refused to permit operation, the assurance of its absolute need was confidently given after the leucocytosis had been shown to exist. A number of blood-counts were made and always, when the temperature was high, the leucocyte count was also high. The toxins whose absorption caused the fever evidently influenced the number of white cells. Appendicitis may be recovered from even when very severe and may never recur. Every physician has had these cases. In Dr. Rochester's experience a man of thirty-five refused absolutely to be operated on. He recovered after a severe attack with a large easily palpable appendix. Nearly ten years have passed, yet he has had no recurrence.

Appendicitis a Surgical Affection.—Dr. Kelly of Philadelphia said that appendicitis is never a medical affection. In the physician's hands the patient gets well only by happy chance. There is no guarantee against recurrence. Modern progress points to surgery

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dominating this field with ultimate benefit to all our patients.

Course of Appendicitis.—Dr. Smyth of Memphis said that no one can foretell the course of an appendicitis. It does not depend on any factors that can be determined beforehand. It is not in the least dependent on medical treatment; in fact, it is not influenced in the slightest by the medical plan of campaign, whether it be the opium that masks the symptoms or the salines that may increase them. The only assurance for the practitioner is an aseptic scalpel.

Appendicitis, Theory and Practice.—In theory Dr. Deaver's advice to operate for every pain in the belly may be a good one, but for a patient to submit to it, he must have the stoical heroism of an old Roman and the faith of a Daniel. We must consider not what is ideally best, but what our patients will accept as for the best. There seems no doubt that many cases of appendicitis will recover under simple medical treatment. This does not mean any special drugs, but absolute rest, absolute abstention from food and the free use of salines, with an ice-bag locally. Under this plan of treatment there seems no reason why most cases of appendicitis do not get well without operation. Even surgeons admit that eighty per cent. of the cases of appendicitis do not need operation. It must be remembered that all scalpels are not aseptic and that many cases are lost as the result, perhaps, of needless operation. The medical man should if possible always have a surgeon in consultation, but must be conservative in agreeing to an operation.

Prophylaxis of Appendicitis.—Dr. Boardman Reed of Philadelphia said that not only is there danger from an operation for appendicitis at the time of its actual performance, but there are often unpleasant complications and unfortunate sequelæ. The duty of the medical man is to prevent the occurrence of acute attacks of appendicitis. Often for a long time before its actual outbreak there are symptoms that point to the gathering storm. There are often months, sometimes years, of impaired health. There is constipation with intervals of diarrhea. There is often persistent and increasing anemia. In the urine there are the signs of disturbed intestinal digestion. Indican may be found, the sulphates are in excess and the acidity is increased. There is often obstinate gastric disturbance and especially increased acidity of the stomach. This gives rise to catarrhal irritation of the intestines which also involves the appendix. If these symptoms are relieved before they terminate in pathological changes the appendicitis may be prevented. This is the problem the medical man must set himself to solve.

Rigidity as a Symptom.—Dr. I. N. Love of New York said that rigidity of the abdominal muscles on the right side is often the first symptom of appendicitis and it is always a most valuable sign. Nature thus splints the intestines and indicates the plan of treatment she wishes followed. Rigidity if looked for may lead to the very early discovery of appendicitis, when often all that is needed is absolute rest in bed and fasting to make the patient as well as ever.

Fulminant Appendicitis.—Dr. Lily of Memphis reported a case of fulminant appendicitis in his own son. The boy, a strong athlete of twenty-one, took luncheon in good health at twelve o'clock, and an hour later was almost in collapse. A hernial tumor developed on the sight side. This subsided while on the way to the hospital. Operation was postponed until the following morning when five inches of the ascending colon were found to be gangrenous and three inches of the large intestine so congested as to require removal; in addition to this five inches of the ileum were gangrenous. In all thirteen inches of intestine were removed and the patient recovered. The case illustrates how serious the condition of the appendix itself and neighboring structures may become within a few hours after the beginning of the attack. No confidence can be placed in seeming remissions. They often mean only that the disease is taking a fresh start.

Change of Opinions.—Dr. Deaver said in closing the discussion that the medical opinion with regard to appendicitis is gradually changing fortunately for the better. Five years ago the present discussion could scarcely have ended so favorably for the surgeon. True conservatism in the case of appendicitis the medical world has come to realize is early surgery; many lives will thus be saved.

Phases of Malaria.—Dr. J. B. McElroy, of Stovall, Miss., described some anomalous types of malaria. Comatose conditions in other countries develop only in malaria of the estivo-autumnal type. In the United States, however, some few cases of real malaria coma develop from the spring tertian and quartan types of malaria. The perniciousness of malaria is a feature of the estivo-autumnal type, because the parasite of this form of the disease develops very abundantly and affects many red cells. Their destruction leads to clogging of the capillaries and consequent disturbance of all function.

Malarial Gangrene.—A certain number of cases have been reported in which gangrene of the extremities occurs. These cases are sometimes symmetrical, so that there is question of Raynaud's disease. Osler has reported some of these types. In one patient reported by Dr. McElroy, gangrenous spots occurred over the knee-cap and the anterior tibial surface. The patient in his delirium left his bed to sit near the fire, but he had not touched the fire itself. In another patient, a child, the foot and leg became cold below the knee and

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then dry gangrene set in. The line of demarcation began to form. During two weeks the patient was not seen and spontaneous amputation had taken place.

Malarial Hemoglobinuria.—Hemoglobinuria occurring in the course of malaria is practically always in Dr. McElroy's experience due to the malarial intoxication. The British Royal Commission of Invesitagtion found 90 per cent. of black-water fever to be malarial in origin. In these cases the malarial parasites are not found in the peripheral circulation. Dr. McElroy found them in only two out of nine cases. There is no true leucocytosis in malaria. There is sometimes an apparent increase of white cells, but it is that the large mononuclear leucocytes are increased at the expense of the other forms. In malarial hemoglobinuria this is the form of leucocytosis that occurs. This confirms the suspicion of its malarial origin.

Negro Immunity to Malaria.—Dr. McElroy thinks there is no foundation for the tradition that negroes are comparatively immune to malaria. In the whites on a plantation in Dr. McElroy's neighborhood about 53 per cent. are malarial, among the blacks over 60 per cent. The negro mortality from the disease is over 30 per cent., that of the whites under 25 per cent.

Negroes Relatively Immune.—Dr. Wm. Britt Burns in the discussion said that the blacks are relatively immune. They take the disease, though much more exposed than the whites, in milder form. They respond better to treatment. Whites practically never recover from malarial coma. It is not rare to see a negro recover. Children of the whites are in serious danger if they have more than three chills. Black children stand many and yet remain comparatively strong in spite of the most unhygienic surroundings.

SECTION ON SURGERY AND ANATOMY.

FIRST DAY—JUNE 4TH.

Medical Treatment of Appendicitis.—Dr. A. J. Ochsner of Chicago dwelt chiefly with the new and what might be called quasi-medical treatment of appendicitis. Its exhibition deals chiefly with the prevention of diffuse general peritonitis which is so often a fatal accompaniment of this disease. Except toward the median line, where the small gut alone safeguards the appendix, very efficient protection is afforded this organ in all directions. The omentum, which normally and invariably in pathological conditions spreads its protecting mantle well over the appendix, affords not only a certain amount of mechanical protection and support, but by its vast blood-supply aids materially in draining away and destroying the exciting factors of the inflammation. Rest is here as emphatically indicated as in inflamed areas elsewhere. The tense board-like abdominal walls the spasticity of the body on the affected side; the absence of peristalsis, all point tentatively to this great truth. Consequently it seems but rational that any treatment which can be inaugurated to give help and support to these splints of Nature or which, at least, shall in no way interfere with them, must be a rational and a safe one. It is summed up simply as follows: (1) No particle of food shall pass the mouth after the inception of the disease; (2) under no conditions shall cathartics of any character be administered; (3) gastric lavage repeated as often as may be necessary to abrogate meteorism and pain shall be freely used. No matter what may be the form of the disease, this treatment seems invariably beneficial, but more particularly in the fulminating and gangrenous forms in cases which have been aptly described as too late for early operation and too early for late, are the beneficent effects of this treatment manifested. Ninety per cent. of these cases are converted into the chronic type, practically all of which terminate in recovery. Of five hundred and sixty-five cases operated in the last four years, Dr. Ochsner is able to show the flatteringly low percentage of 3½ per cent. mortality. This, too, in a series of cases embracing every possible form of appendicitis. He drew the following conclusions: (1) The peristaltic movements of the small gut are the chief factors in distributing appendicular infections; (2) rectal enemata of any predigested food, not more than four ounces, should be given every four hours; (3) this treatment, if instituted at the onset of symptoms, will convert every fulminating case into one of a chronic form. (4) the laity should be instructed to cease giving food and salts in all cases of intra-abdominal distress.

Surgery of the Spinal Cord.—Dr. Andrew J. McCosh of New York said that the general trend of modern surgery gave more and more support to the prophetic sayings of Sir Astley Cooper, to wit: That in all cases where the worst was to be looked for in the event of pursuing a palliative course, the chances of an operation were emphatically indicated. In the light of our modern surgical technic there is no type of operation which more strongly emphasizes the truth of this saying. Operation should be undertaken the very moment a diagnosis is made and in every case where a diagnosis is impossible exploratory incision is called for. Unhappily, as yet the results obtained in surgical treatment of fractured vertebræ are in no way comparable to the brilliant productions of cerebral surgery. Although physiologists maintain that a re-establishment of function after severance of the cord is impossible, Dr. McCosh believes that there is yet ground to hope that under certain conditions this happy termination may be looked for. It is much to be deplored that a

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custom has sprung into being which classes all cases presenting symptoms of the tumor of the cord as syphilitic. Despite plausible histories to the contrary, these unfortunates are put on prolonged antisyphilitic treatment, which is usually continued until pressure necrosis has hopelessly disintegrated the cord. There are two types of operative technic. In the first, three spinous processes and their laminæ are divulsed with the rongeur. In the second, a corresponding amount of bony tissue is raised by the flap-method, to be subsequently replaced. This possesses but little merit, is occasionally unhappy in its results and is difficult of execution. The skin incision should be made as high as the lesion will permit in order that trophic changes over the injured cord may be avoided. He feels that particularly in cases of tumor early operation is indicated, that the greater the speed of operating, the better, and that at least three processes should be removed. Spinal supports he considers unnecessary.

Spina Bifida.—Dr. Paul F. Eve of Nashville dwelt on the characteristics of the tumor which not only permit the establishment of positive diagnosis, but which enable one with reasonable security to establish a correct prognosis. Some of these are translucency, elasticity and reducibility, with bulging of the fontanelles. Of particular import is the character of the pedicle. Because of the fatality surrounding this class of congenital malformation, it seems axiomatic that almost any radical measure presents even a shade of hope of complete restoration is justifiable. The day has passed for pressure and for the varied forms of astringent injection. Save in those cases where the breadth and delicacy of the pedical contraindicate, operation of a plastic type seems surely advisable. Particularly is this true where the tumor is increasing rapidly in size and the age of the patient has passed the third month.

Methodical Exploration of the Brain for Fluid.—Dr. Christian Fenger of Chicago spoke only of subcortical collections of pus. The three factors chiefly to be considered in this exploration are the type of instrument to be used, the position of the trephine areas and the extent and direction of the exploration. He gives preference to a blunt aspirating needle, although Von Bergmann advises the simple use of a knife which shall penetrate not more than three to four centimeters. In order most thoroughly to search for the offending material, he takes two trephine areas over each hemisphere, one anterior, the other well posterior. In each of these he passes the aspirator in every direction, and invariably taps the lateral ventricles. He thus fearlessly penetrates from three to four inches of brain tissue. It cannot be doubted that this method is infinitely preferable to the limited procedure of Von Bergmann.

Immediate and Remote Effects of Brain Injury.—Dr. T. S. Fairchild of Clinton, Iowa, believes that a knowledge of the mode of the reception of the injury is of paramount importance. Patients whose brains have been violently contused by their falling from height present conditions very different from those who have been struck upon the head by a concentrated force. Symptomatically he divides these cases as follows: (1) Indeterminate trauma without symptoms; (2) indeterminate trauma with symptoms; (3) determinable trauma with marked symptoms. Anatomically he divides the cases as follows: (1) Those presenting pressure lesions which give rise to Jacksonian epilepsy; (2) nutritional lesions which, leading to minute sclerosis, often ultimately terminate in insanity. The early surgical treatment gives good results and obviates the possibility of these sequelæ; (3) sclerotic cerebral areas often undergo cystoid degeneration.

Drainage of Ventricle.—Dr. W. W. Keen of Philadelphia agreed most cordially with the radical views which had been expressed touching the treatment of spina bifida. He regretted that Dr. Fenger had limited his paper to a description of his mode of searching for pus. Probably more frequent and surely more often diagnosed, the localization of hemorrrhage seemed to him of equal importance. More than ten years ago, in a paper read before the International Congress, he described a method for reaching the lateral ventricles and traced the paths by which they could best be washed out and drained. He further showed that the opening of these ventricles was not dangerous. He recently operated upon a patient whose skull had been fractured in 1892 and who had developed epilepsy in 1899. Immediately beneath the dura he discovered what appeared to be a large cyst. In the absence of cortical covering he did not even think of the lateral ventricles, and he was both astonished and alarmed to find himself suddenly within their cavity. After removing a grumous material the cavity was drained and the patient recovered with a cessation of his epileptic attacks. In epidural hemorrhages it must not be forgotten that the duration of the period of consciousness which characterizes this lesion may vary from nothing to six weeks.

Dr. McLean of Detroit agreed with Dr. McCosh that spinal supports are useless and he felt that in cases of spina bifida considerable care should be exercised before determining upon operation. The cerebral injuries without doubt present two widely separated types, dependent on whether the patient falls or is struck. The first class is by far the most dangerous type since the whole brain is undoubtedly injured, and the patient should be under careful scrutiny for at least two weeks.

Operative Treatment of Tic Douloureux.—

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Dr. Frazier of Philadelphia presented the details of new operation for the relief of tic douloureux. In essence it consists simply in a severance of the sensory ganglion, commending itself chiefly for its simplicity, its freedom from hemorrhage and the preservation of the integrity of the cavernous sinus and of the sixth nerve. It calls for a slitting of the zygomatic process.

Dr. R. F. Wier of New York said that surgeons should reach some definite conclusion as to the treatment of cerebral symtoms which do not present classic symptoms. In earlier years he had been in the habit of leaving these cases alone, but observation of the varied accidents which befell them subsequently has led him to believe that the careful exploration of the wound is the conservative surgical procedure. He supports the original operation on the Gasserian ganglion, feeling that the modern paths of approach are in no way superior to the older, and the splitting of the zygomatic arch is certainly an undesirable procedure.

Dr. Earles of Milwaukee declared that, in its close application to abdominal work, surgery had neglected to a lamentable degree the diagnosis and treatment of cerebral injuries. Every trauma capable of fracturing the skull must be capable of injuring the brain. The only safe attitude for the surgeon of to-day is to premise his work with the assurance that there are cerebral injuries and operate accordingly. In 87 per cent. of a large number of cases he has found some form of intracranial lesion.

Dr. Moore of Minneapolis spoke of the indications for operation and the treatment and prognosis of spina bifida. If there be an abundant integument and a narrow pedicle, the prognosis, no matter what the age may be, is usually good. The position of the child is important. It is a sort of reversed Trendelenburg posture. This preserves an equable intracranial pressure no matter at what speed the tumor be evacuated. The chief difficulty seems to have lain in the obliteration of dead space. This he partially accomplishes through the organization of the blood-clot and partly by a free liberation of the erector spinæ muscles from the bone and their close union in the median line.

Dr. Dawbarn of New York cited an anomalous case upon which he had operated for the relief of cortical hemorrhage some years ago. It was done in accordance with the advice and under the eye of the late Dr. L. C. Gray. In the presence of every classic symptom no hemorrhage was found on the operated side. At the autopsy a week later, an immense epidural blood-clot was discovered on the paralyzed side. Dissection revealed the fact that in this case the fibers had not decussated. Although but three similar cases are recorded, he feels sure that it is not a very infrequent anomaly, our unfortunate inability to procure autopsies having limited our information as to these details.

Dr. McCosh in closing emphasized the importance of early operation in all cases, even including those which gave all the apparent symptoms of a complete severance of the cord.

Dr. Fenger in closing said that the lateral ventricles should always be tapped for diagnostic purposes. He uses a half-inch trephine and feels that the grooved director so cordially indorsed by some surgeons for the exploration of the brain is in no way comparable in efficacy to the long blunt aspirating needle.

GENERAL SESSION.

SECOND DAY—JUNE 5TH.

Address of Governor S. S. Van Sant, who welcomed the American Medical Association to the State of Minnesota. The freedom of the city had been granted by the mayor. He was pleased to extend to the visiting members the freedom of the State. He spoke with pride of the advantages of the State and after welcoming with special warmth the members from the South, he advocated the Southern territory as a fitting meeting-place for the association in the year of 1902.

Executive Business.—The minutes were read and approved and the report of the joint meeting of the General Executive Committee and the Committee on Re-organization, bearing on the report of this latter Committee, was read by Dr. H. O. Walker of Detroit. Dr. E. Harris moved the adoption of the report *in toto* and, after a short discussion by Drs. Bulkley, McCormack and others, the report of the committee on re-organization was carried and the new constitution and by-laws drawn up by that body now becomes effective for the association.

Oration on Surgery.—Dr. J. A. Wyeth of New York then delivered the Oration on Surgery (see MEDICAL NEWS, page 891).

Senn Medical Prize.—Dr. F. H. Wiggin of New York, on behalf of the Committee of Award of the Senn Medal, reported that two papers only had been received, and as neither of these was deemed worthy of the prize, it was decided not to award it this year.

Scientific Research.—Dr. W. H. Welch of Baltimore, on behalf of Dr. H. C. Wood of Philadelphia, reported to the Association that during the year little advance had been made in the work of this Committee owing to the illness of its Chairman. No money had been expended, although ten applications had been received. He advocated the reaffirmation of the grant, its increase to $1,000 and an increase above the $100 allowed to an individual worker. In this manner it was thought that the better carrying out of the original desires of the founders of the grant would result.

Army Canteen Question.—Dr. Seamans of

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New York desired the Association to take some action on this question. After much discussion the matter was referred to the Committee on Legislation.

Rush Monument Fund.—Dr. H. D. Holton of Brattleboro, Vt., reported an addition of about $1,880 to the Fund during the current year. This, with the promise of the Pennsylvania Medical Society of $2,000 when the Fund actually reaches the desired amount, gives a total of $13,941.00 in the Treasury.

Officers.—The following officers were elected: President, John H. Wyeth, of New York; First Vice-President, Alonzo Garcelon of Maine; Second Vice-President, A. J. Stone of St. Paul; Secretary, George H. Simmons of Chicago; Treasurer, Henry D. Newman of Chicago; Trustees, Drs. Fulton, Grant and Happell.

Saratoga was chosen as the next place of meeting.

SECTION ON MEDICINE.

SECOND DAY—JUNE 5TH.

Blood Chemistry.—Dr. W. D. Kelly of St. Paul read a paper on the chemical microscopical value of blood examinations. He detailed the recent chemical investigations of the blood and recalled the salts in solution in the plasma. One noteworthy recent discovery is that of a diastase in the blood. This would coagulate the serum of the blood, but is inhibited by the nuclein present. There is under special circumstances free fat in some form, stearin, olein, or palmitin present in the blood. In fevers acetin can always be found and sometimes in readily recognizable quantities.

Acidemia.—Dr. Kelly has succeeded in injecting large quantities of glacial acetic acid, as much as 1 c.c. into rabbits without causing death. In these cases the blood gives the same test as in the supposed acid coma of diabetes, yet the animal is but very little affected in its general condition. It seems probable, then, that it is not the more or less coincidental presence of excess of acid in the blood that causes diabetic coma, but some other substance present with the acid. Large quantities of alkali may also be injected into the animal circulation without causing death, though materially altering the blood reaction.

New Method of Blood Preparation.—Dr. Kelly then described his apparatus for fixing blood specimens. It consists of a copper box that fits over an ordinary incandescent lamp. This supplies a very constant source of gentle heat and does away with the necessity of having elaborate apparatus for fixing blood specimens, yet absolutely assure their permanence. Dr. Kelly prefers to take specimens for blood examination in the early morning before the patient has eaten, so as to have the circulating blood as nearly as possible in its normal eqilibrium.

Pernicious Anemia.—Dr. Thomas MacCrae of Baltimore gave some details of forty cases of pernicious anemia which have occurred during these last twelve years in Professor Osler's service at Johns Hopkins Hospital. These cases serve to throw light on certain disputed points in this important disease. These forty cases occurred among 12,500 medical cases, which serves to show the rarity of the disease. There were 32 males and 8 females. Usually male patients preponderate in pernicious anemia statistics, but the reason for this disproportion is not clear. Two of the cases were in the colored race. The negro is said to be spared by this disease, but Dr. Osler's observation show they are not. The race, however, is relatively immune. While the proportion of black to white patients was 1 to 8 the proportion of those attacked by pernicious anemia was 1 to 20. This confirms what has been found with regard to traditions of negro immunity in other diseases. There is a comparative lack of liability to many diseases, but this does not rise to positive immunity. The more careful the investigation the more cases of special disease found among the negroes.

Age and Other Factors.—Most of the patients were in the fifth decade of life, more than one-half were over forty. In only 3 cases was mental worry or emotional strain mentioned as a positive causative factor. These are considered important elements in causation in private practice, but are not often referred to by hospital patients. In only one of the 8 affected females was there any question of the association of pregnancy or lactation in the causation of the disease. This is all the more surprising as these states are said especially to predispose females to blood disturbances of various kinds and above all to pernicious anemia.

Oral Sepsis.—Hunter's recent statement that septic conditions in the mouth were often causative of the disease led to a careful study of mouth conditions that might be provocative of serious trouble. In 6 patients healthy mouths were found. This investigation led to the examination of the mouths of all patients coming to the hospital. The proportion in which oral sepsis of greater or less degree existed was very high. It was not as high in pernicious anemia as in many other pathological conditions to which, however, it evidently bore no causative relation. Dr. Hunter's discovery of oral sepsis in so many cases is not surprising. It is, however, only a coincidence, for oral sepsis is so common among hospital patients as to be almost the normal condition. Only some special circumstances will have prevented its occurrence.

Gastro-intestinal Disturbance.—A fact that confirms this conclusion contrary to Dr. Hunter's claim is the rarity with which gastro-intestinal disturbance is associated with pernicious anemia. In less than one-third of Professor Osler's cases

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were gastro-intestinal symptoms noticeable. It is manifest that it is not the infection of the stomach from the mouth that is at the bottom of the condition.

Symptoms Most Prominent.—The first complaint as a rule is the progressive and unaccountable weakness. This is always an important preliminary feature of the disease the development of the characteristic lemon-yellow color often calls attention to the disease. It seldom fails to make its appearance. Loss of weight is a striking and very common symptom that is usually not found insisted on in the text-books of medicine. In more than one-half of the Johns Hopkins cases this was noted early in the course of the disease. About one-quarter of the patients retain their plump appearance, though being very weak. Hemorrhages from mucous membranes, which are often said to be a characteristic symptom, were seen in 10 cases while under observation. Abdominal examination showed that the liver was practically never enlarged. In 6 the spleen was somewhat enlarged, but not to any serious extent, except in 3 anomalous cases that seem to deserve classification by themselves under the term splenic anemia. They were reported as such by Prof. Osler three years ago. In three-fourths of the patients rises in temperature were noted. Ten cases of pernicious anemia ran their course and were discharged better without having had any fever. As a rule, 101° F. was the average highest daily temperature. Occasional rises to 104° F. were seen however and once even a rise to 106° F. No other cause for the temperature disturbance could be found in any of the cases except the blood condition.

Hemoglobin Average.—In the 40 cases this was exactly 30 per cent. The average blood-count was just one and one-half millions. The disturbance of the ratio between hemoglobin reduction and corpuscle reduction was not found. A reduction in the number of mononuclear leucocytes was not found to be so serious a prognostic sign. Many of the cases in which this occurred were discharged cured. The presence of megaloblasts is of serious prognostic import. The reduction of the red blood-cell count below one million is cause for a bad prognosis. Of 16 cases in which such a reduction was noted only 4 lived to be discharged from the hospital. As to pathognomonic signs in the blood there are none though the presence of megaloblasts is the surest single sign of the existence of pernicious anemia.

Differential Diagnosis.—The most important affection requiring careful differentiation is cancer of the stomach. Usually in this the red blood-count is not below one and one-half millions, though occasionally it is in very advanced stages in pernicious anemia at the time it comes to the hospital the red blood-cell count is seldom above one and one-half million and may be below a million. Rarely is there any improvement in the blood condition of cancer. Rarely does some improvement at least temporarily fail to occur in pernicious anemia.

Leucocytosis after Hemorrhage.—Dr. Geo. D. Head of Minneapolis said that a number of investigators have found that after hemorrhage in man there is a distinct leucocytosis. This is surprising as, of course, white cells are lost during the hemorrhage as well as red cells. Dr. Head's experiments seem to afford a rational explanation of the paradox. In animals artificial hemorrhage is followed first by lowering of the number of white blood-cells, leucopenia, and then some hours later by leucocytosis. This same state of affairs probably obtains after hemorrhage in the human being. There is a preliminary fall in the number of leucocytes followed by the hemorrhagic leucocytosis noted by so many observers. In the discussion Dr. MacCrae of Baltimore said that after hemorrhage in typhoid fever where the case was suspected and blood-counts were being made every hour, he has seen this primary leucopenia and its presence may be a valuable diagnostic sign to differentiate hemorrhage from perforation.

Osmotic Pressure.—Dr. Heinrich Stern of New York said that too much stress has been laid on the physiologico-chemical factors in the production of uremia. This has excluded the physical factors and especially the import of osmotic tension. The intravenous injection of urea and even of the whole urine has not given rise to the symptoms of uremia, as was anticipated. The lacking etiological factor is the disturbance osmotic pressure by the retention in the blood of substances that should be eliminated. There is no new chemical substance in the blood of two uremia patients only an excess of certain substances normally existent there. All organic matter is saturated with water. The cells of the body are more or less permeable for water. If the contents of the organism in soluble salts and in water remain unaltered, so that for a certain period neither salts nor water are introduced nor eliminated, all the watery constituents of the organism would become one homogeneous liquid and the same osmotic pressure would prevail over the entire system. The molecules of a number of compounds when dissolved are divided up and are dissociated into ions. The higher the dilution, the more perfect the dissociation as a general rule. There is no vital process in which diffusion or osmosis does not participate. Conditions for the evolvement of osmotic pressure always exist in the organism, for whenever two solutions come in contact by means of a semi-permeable wall, osmotic tension is displayed. When the excretory activity of the kidney is materially interfered with, the products of metabolism are retained in the blood. There are a great variety of substances dissolved in the blood-plasma, each with its special effect on osmotic tension. All of these have a tendency to diffuse toward the less concentrated body liquids. Ultimately all the fluids of the body exhibit a similar degree of concentration. This degree of

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concentration is accompanied by a series of manifestations, coördinate and determinate, which have been grouped together under the name of "uremia." This is really, if we may call it so, a mechanical intoxication not one of chemical origin, but one due to an abnormal increase in osmotic tension of the blood-plasma and the fluids of the body. According to Dr. Stern's experiments the phenomena which occur in the blood after the injection of large amounts of concentrated salt solutions are the same as those in uremia. They make their appearance together with the increase in the concentration of the blood, when the elimination of the accumulated substances from the blood on account of the exhaustion of the resorptive qualities of the tissues does not occur any longer. Novy already noticed in dogs tonic and clonic convulsions after intravenous injection of a ten-per-cent. sodium-chloride solution in such amounts that the blood had attained twice its former concentration.

Biological *vs.* Physical Factors.—In discussing Dr. Stern's paper Dr. Walsh of New York said that Dr. Stern has done a service by calling attention to the physical factors that may enter into the causation of symptoms of uremia. To limit the etiology of the symptoms to physical factors alone is to take a very one-sided view of a complex problem. Osmosis and osmotic tension were some years ago advanced by physiologists as an all-sufficient explanation for many vital phenomena. We have gotten beyond the idea, however, that cellular membranes are the active elements in vital activity. The separate cells in their life processes accomplish much more than can be explained on the principal of osmosis. Now that we have advanced a step to the application of the principle of osmotic tension to the individual cells, the influence of this extraneous process must not be exaggerated. Intracellular life is the essential active element in all body changes and the metabolism of the cell remains almost as much a mystery as ever before.

Circulatory Disturbance and Liver Cirrhosis.—Dr. Stockton of Buffalo read a paper on this subject with special reference to the inosculation of the branches of the portal system with the general systemic venous circulation. He said that the most important thing in true atrophic cirrhosis is the circulatory disturbance with congestion of abdominal organs, ascites, etc. There are always some inosculations of portal systemic circulations. Blood does not flow from portal to systemic veins, because blood-pressure in the portal vein is lower than in systemic venous circulation. When, because of the increase of blood-pressure in the liver, due to the atrophic shrinkage, the portal circulation is forced into the systemic, various toxic conditions are produced. These often cause headache, general malaise and discomfort and are best relieved by a saline cathartic. Friederichshalle water seems best suited for this purpose.

Cirrhosis Without Ascites.—In many of these cases the reason for the failure of the ascites to occur is that the portal circulation relieves itself by anastomosing freely with the systemic venous apparatus. This produces enlargement of the veins, especially of the esophagus. These veins may rupture after enlargement and so give rise to fatal hemorrhage. When the atrophic cirrhosis is suspected and no ascites has developed, it is well to be wary of the possibility of the occurrence of serious hemorrhage. In one instance where Dr. Stockton was able to follow the case from the beginning, he foretold the possibility of death from esophageal bleeding and this actually took place. In all cases where the ascites is small in amount or absent, the portal circulation has found some vent for its blood and serious disturbance may be expected. A series of cases was detailed, most of them with autopsy, in which death took place from hemorrhage in what looked like an especially benign form of cirrhosis of the liver.

Cirrhosis from Metallic Poisons.—Dr. Victor C. Vaughan of Ann Arbor, Mich, said that all cirrhosis of the liver is due to the presence of a toxin brought to the liver. The cirrhosis develops in different ways according to the avenue by which the toxic material gains an entrance. If it comes through the arteries, then the sclerosis starts from the coats of the vessels and extends into the liver substance. This is the arteriosclerosis of the liver described by the Germans and accompanied by the like changes in arteries in other parts of the body. If the poisonous material comes to the liver from the digestive tract, then the growth of connective tissue begins around the portal vein and gradually extends. Alcoholic cirrhosis is the most familiar example of this type. If the bile contains the irritating matter, then the cirrhosis takes the form of the biliary or hypertrophic cirrhosis.

Lead and Copper Cirrhosis.—Dr. Vaughan has seen these mainly in house-painters. They neglect to wash their hands before eating and so they swallow no inconsiderable amounts of the metal which accumulates and produces symptoms of poisoning. Lead poisoning also occurs among the attendants on smelters who breathe in the fumes of the metal usually mingled with arsenic. Cirrhosis that develops thus run a clinical course and, unlike that of alcoholic cirrhosis, needs about the same line of treatment. The first and most important consideration, as in the case of the alcoholic patient, is to remove the sufferer from all contact with the toxic material to which he owes his developing condition. The effect of the soluble salts of the metal aluminum upon the liver especially, as seen in baking-powder, is an important question for public health. Dr. Vaughan has found that in animals the soluble salts of aluminum in ordinary alum produce the fatty changes in liver-cells which are so characteristic of cirrhosis of the liver in man.

Treatment of Cirrhosis.—Dr. John H. Musser of Philadelphia said that while cirrhosis of the liver is hopeless as regards ulti-

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mate cure, much can be done to alleviate the symptoms. The general condition of the patient must be maintained at a high degree of vital resistance. Bland unirritating food must be given, free catharsis must be employed and the skin must be kept up to the level of its highest efficiency for eliminative purposes. Surgeons are too ready to operate upon cases of hemorrhoids without consulting the condition of the liver. Where cirrhosis exists operation must not be permitted. As the result of the absence of the liver function, the resistive vitality of the organism against infection is much lowered. The grave processes that begin in the rectum at such times are prone to be long and obstinate to treat. Dr. Musser has seen three cases in which such inadvisible operations have been followed by death. Because of the liability to piles the stool should be kept constantly soft and constipation avoided as far as possible.

Treatment of Ascites.—Dr. Musser has found calomel, gr. $^1/_{40}$ every three hours, almost invaluable for its diuretic action. Niemeyer's pill is also deservedly a favorite prescription. As a diuretic apocynum cannabinum is of great assistance in obstinate cases. Most cases of ascites will prove obstinate to drug treatment. Tapping is the only recourse, and this should be performed early and often. Where tapping has to be repeated frequently, permanent drainage is advisable. Tapping is of itself curative. It does not affect the cirrhosis, but it alters conditions in the abdomen so that accumulation of fluid no longer takes place. In one reported case tapping was performed 190 times. The maintenance of permanent drainage involves no risk. By permanent is meant drainage which is continued until the ascitic condition is relieved.

Anastomosis Operation.—In certain cases the symptoms can be relieved by producing anastomosis between the vessels of the abdomen and those of the omentum. In reported cases this has benefited the patient so much as to constitute a practical cure. The peritoneum is scarified and the omentum is fastened to it; adhesions then form in which anastomotic blood-vessels are not rare. The cirrhotic cachexia disapears in many cases as if by magic. Recurrences of symptoms have so far not been noted in the operative cases. Over 20 satisfactory operations have been reported. Even where success is not marked the operation does no harm and is not of itself dangerous.

Biliary Cirrhotic Fever.—In a case of biliary hypertrophic cirrhosis the patient began to suffer from recurrent daily chills and fever. No malaria was present and quinine did not benefit the case. The fever was so exhausted that the end seemed not far off. Laparotomy was done and the gall-bladder incised, careful cultures were made of the bile, but it proved to be sterile. This part of the work was done by Dr. Simon Flexner. A permanent biliary fistula was made and this did away with the chills and fever. This operation of biliary fistula seems sure to acquire vogue in these cases. Undoubtedly in this case it proved life-saving.

Latent Cirrhosis.—Dr. Frank Billings of Chicago said that in some cases the insidious preliminary symptoms of cirrhosis may be detected. Often there is intestinal disturbance with general symptoms, at times localized to groups of nerves. Lumbago-like pains and sciatic neuralgia may be due to defective function of the liver. Under hygienic régimen with special attention to the liver these will disappear. Muriate of ammonia is sometimes an effective drug in the conditions; calomel is always useful.

Biliousness in Incipient Cirrhosis.—Dr. Herrick of Chicago said that the vague group of symptoms, lassitude, headache, tenderness over liver, with constipation and distaste for food, is connected by tradition with the liver. Oftener than is thought these symptoms actually constitute the preliminary signs of developing hepatic cirrhosis. Where they occur frequently their treatment should be undertaken with this view. Calomel should be used at intervals in these cases and chloride of ammonium will be found of good service. Besides atrophic and hypertrophic forms of cirrhosis Dr. Herrick considers there is a mixed form of the affection.

Bronze Diabetes.—Dr. T. B. Futcher of Baltimore reviewed the four cases of this disease that have been reported in this country. The disease is rapidly fatal. Practically it never lasts more than one year. Thirty cases, all in males, have been reported. Nearly always there was an alcoholic history. All the patients were over thirty years of age usually in the fourth or fifth decade. Seventeen of the 30 cases occurred in France. It has been said to be more common there, but it seems that the disease has been looked for more carefully there than elsewhere. It is sometimes mistaken for biliary cirrhosis of the liver. There is always overgrowth of connective tissue in the liver. In 22 cases some connective tissue changes in the pancreas were noted. Gross changes with pigmentation of epithelial cells of the gland were found. This is thought to account for the occurrence of diabetes in the cases. On the other hand, Charcot considered the diabetes primary.

Hemachromatosis. — Dr. Recklinghausen showed that there was a condition in which iron in two forms was deposited in the tissue. Bronzing also took place in this disease, and lesions of the liver were common. In one of Von Recklinghausen's cases diabetes developed before the end. This disease, hemachromatosis, seems to be an early stage of the French bronze diabetes. The same pathological lesions occur in both. Only very recently

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has the notion of the identity of these diseases been generally accepted.

Bronze Diabetes and Addison's Disease.—Dr. Futcher in closing the discussion said that it is necessary to take care not to mistake bronze diabetes for Addison's disease. Without examination of the urine the mistake is easily made. In the early stages of hemachromatosis the differentiation may be extremely difficult. The operation of producing anastomosis in hepatic cirrhosis has always done good and at Johns Hopkins is considered a very valuable therapeutic advance.

Rheumatic Simulants.—Dr. James J. Walsh of New York said that acute rheumatism is well known, but that the series of cases diagnosed as rheumatic and supposedly due to chronic rheumatism is a heterogeneous collection of cases of most varied etiology. Relaxation of the tissues around joints, as in flatfoot, is the basis of many of these cases. Old sprains, dislocations, and breaks in the neighborhood of joints, give rise for years after their occurrence, especially in older people, to a series of painful symptoms. In damp weather these are always worse; hence the diagnosis rheumatism and the treatment by antirheumatic remedies. Most of the so-called antirheumatics are really depressants and often irritate the stomach and kidneys thus interfering with nutrition and elimination. This emphasizes instead of ameliorating the condition which goes on from bad to worse.

Toxemic Joint Symptoms.—Joints often become painful in connection with urticaria from digestive disturbance. Arthritic symptoms are common after the administration of diphtheria antitoxin. Ordinary rheumatism of the acute variety is surely microbic, but the presence of bacteria is not necessary for the production of joint symptoms. The tired feeling that accompanies indigestion is often a symptom of the effect of the non-elaborated food substances absorbed into the circulation and affecting first the sensitive mechanism of the joints. The joint structures themselves are more easily affected than other tissues which do not have to work so hard or are not exposed. The occurrence of painful joints should be the signal for careful examination of the patient and the removal of all constitutional disturbances.

Occupation Neuroses.—A prominent group of joint pains are associated with these neuroses. Not alone the penman, telegrapher, violinist or typewriter, may be affected, but any person engaged in an occupation requiring the constant use of a definite group of muscles. Even sweeping, for instance, or ironing or filing may produce at first painful and then crampy conditions. These always develop on a neurotic basis and usually in run-down subjects. The pain is often referred to neighboring joints. It is wonderful how often these cases are discussed as chronic rheumatism. If treated by the salicylates the pains are lesened for the time being, but the condition gradually gets worse. Often these neuroses become noticeable only after the patients have become run-down in health. As a rule, a gain in weight is followed by improvement. Then the patients should be instructed how to use their muscles to the best mechanical advantage and should be warned of bad habits that invite muscular spastic conditions and pain.

Rheumatism and Flatfoot.—Dr. Stockton of Buffalo said in the discussion that the allusion to flatfoot and its being taken for rheumatism is a very practical point. Dr. Stockton has seen cases in which the pains were referred not to flatfoot itself, but to distant joints, as the knee and even in one case the hip. Or undoubtedly too much medication on general principles for rheumatism is indulged in and Dr. Walsh does well to call attention to it. More careful study of patients is needed and new rheumatic remedies, though so many are being put on the market.

Dr. Webster of Chicago said that the term rheumatism is too often a cloak for hasty diagnosis. If practitioners would study their cases more there would be less supposed rheumatism to treat. It is not enough to relieve pain temporarily, but the root of the trouble must be found and the underlying conditions corrected. Dr. Walsh's cases represent the conditions that are oftenest mistaken for rheumatism. Their treatment constitutes a special problem in each case.

Acromegaly.—Dr. Charles Lyman Greene of St. Paul presented a case of well-marked acromegaly in which the hands were especially involved in the acromegalic condition. Some myxedema is also present. This last condition has been noted in other cases and seems to show that where one ductless gland is affected others may also prove to be in a pathological condition.

SECTION ON SURGERY AND ANATOMY.

SECOND DAY—JUNE 5TH.

The Mortality of Appendicitis.—Dr. John B. Deaver of Philadelphia based his statistics upon 268 cases of appendicitis operated on in the German Hospital in 1900. Of the total in number operated 144 were acute, 124 chronic. He divided the cause of death as follows: (1) Prior to operation; (2) at the time of operation; (3) post-operative. For all cases of appendicitis uncomplicated by intercurrent disease, his statistics give a mortality of 15.9 per cent. In every case the appendix was removed. Of the chronic cases operated upon, but one death occurred, this having been caused by a rupture of an ovarian cyst. His statistics are peculiarly full and reliable because, although occasionally prosecuted he

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nevertheless autopsies every case dying in his service. Considering the mortality in general, he said that septic peritonitis is invariably the cause of death. It is induced in a variety of ways, failure to "wall off," or gut obstruction with the formation of adhesions. There is no possible way of assuring one's self which will be the fatal attack although experience shows that they usually increase in severity. Death following operation in chronic cases is due invariably to the factors which may be fatal in any laparotomy. As yet, the fulminating class of cases is lethal despite any promptness of operation.

Technic.—Second only in importance to the extirpation of the appendix is the thorough exploration of the region for hidden pockets of pus. Dangerous in any position, those located in the midline, safeguarded only by the lesser gut, are the most to be dreaded. Operation along these lines insures (1) absence of fecal fistula, (2) subsequent attack, and (3) necrosis of bowel-wall, which is doubtless due to septic embolism of the mesenteric vein. Of eleven cases not operated on in his service three died and six left the hospital with bunches in the right side. Of particular importance is the position of the appendix. When located posteriorly, the termination is not apt to be fatal, because of subsequent ovarian involvement, delay is particularly dangerous in females. Too often normal ovaries have been sacrificed where the appendix was offending. Every death occurring in the second attack must now be recognized to have been preventable. Who must assume the responsibilities of these deaths? Under the term appendicitis is somewhat carelessly grouped a series of protean conditions which give an unusually perplexing and varying number of pathological phases and symptoms. It is a melancholy fact that in every case lost there was a time not taken at the flood. In the absence of true pathognomonic signs, perhaps the best which has yet been recognized is the invariable muscular rigidity over the diseased area. He cited a case which graphically exhibited the importance of this sign and the comparative uselessness of pain. This is in many cases referred to the healthy side. Leading to the fatal goal which is not appendicitis, but rather suppurative peritonitis, there are three sections, *i. e.*, (1) where the inflammation is limited to the appendix, (2) where the abscess is circumscribed, and (3) where septicemia is beginning. Treatment for all conditions lies in the general principle of early operation. In certain conditions continuous irrigation is advised extending at times over a period of four days. From a number of cases it is concluded that salt solution may impede the dissemination of the disease.

Knot Within the Lumen in Intestinal Surgery.—Dr. F. Gregory Connell of Chicago, by a series of exquisite casts, demonstrated his new technic for enterorrhaphy for the prevention of drainage along the needle path. The position of the knot is most important in enteric suturing. It must lie external to the serous surface. Since it cannot be extra-abdominal the only remaining place for it is upon the mucosa. It is here accordingly that his technic places every knot tied. It is an interesting fact that modern surgeons who have written so widely on the value of the submucosa should have overlooked the important writing of Gross of Louisville, who, not alone was well aware of the existence of this layer, but keenly recognized its surgical value. In the classic work of Halsted, in which the layers of the gut were magnified some thirty-three times, the artist failed to give a corresponding increase to the needle. Accordingly in the picture it seems a very simple matter to divide the tissue of submucosa with an ordinary needle. Dr. Connell presented drawings in which a corresponding increase had been made in the size of the needle which laughably demonstrated the impossibility of threading the submucosa. The thickness of this layer is but one-two-hundred-and-fortieth of an inch, the needle being approximately one-fortieth. The particular advantage of his technic is claimed to be (1) less danger of leakage; (2) no yielding; (3) no adhesions; (4) speed.

Dr. Steele of Chicago expressed great pleasure that there existed in this country a hospital where autopsies were made in every fatal case, even at the risk of legal involvement. He added a case to those reported by Dr. Laplace. A child who had swallowed a shawl-pin two and a half months previously presented all the typical symptoms of acute appendicitis. He operated immediately, and found, not the lesion expected, but an abscess caused by the pin perforation. Constant irrigation, which gives such brilliant results in septic joints, must of necessity be of equal value in the abdomen.

Dr. J. B. Murphy of Chicago said that the profession is indebted to Dr. Deaver for the masterly and unflinching manner in which for years he has insisted upon early operation in appendicitis. He asked the following questions: What technically is suppurative peritonitis? Does it signify the accumulation in the body cavity of a cream-colored exudate, or is it rather an abrasion of its shingles, its tesselated layers of endothelial cells? Is not the loss of gloss on the serosa one of the most important indications of this grave condition? Is the relief of tension of as great importance in the abdomen as elsewhere, and is irrigation desirable after operation? Can a diagnosis other than tentative be made of intraperitoneal conditions from the symptoms which are now recognized? After many fatal cases, his faith has been broken.

Dr. Knight of Connecticut emphasized the importance of leucocytosis. He said that the

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washing out of the abdominal cavity at the time of operation is infinitely to be preferred to continuous irrigation. Dr. Andrews of Chicago asked, Shall we or shall we not drain or wash out? Probably all cases of so-called general peritonitis are localized. All which are truly diffuse perish. Fowler's position is of the utmost importance. Patients too weak to be otherwise supported, he ties up in bed. The Connell suture is unquestionably the best mode of intestinal anastomosis.

Dr. Moore of Minneapolis said that Dr. Deaver's doctrine in the hands of anyone but Deaver is pernicious and dangerous. Extremists, however, in each direction are absolutely necessary. It is unfortunate that such men should teach. In general practice it is impossible to follow the cast iron rules of Deaver.

Dr. Robt. T. Morris of New York said that principles must be taught students of medicine with as little hesitation as they are expounded to students of law. A priori they would then, in probably all cases be instructed to operate as early as possible. Leucocytosis is of collateral rather than of determining interest. The treatment of appendicitis consists in a relief of the abdominal tension by evacuation and the establishment of conditions favorable to the creation of phagocytes by the organism. Irrigation and packing use up needed strength. Blood-washing, relieving the system with astonishing speed of accumulated toxins, is of far greater importance than abdominal lavage.

Dr. Deaver in answer to Dr. Murphy said that when the serosa is dull and congested, it is safe to feel that the case had passed beyond human help. The relief of abdominal tension is of paramount importance and Dr. Murphy is unquestionably right in saying that no one can as yet establish a diagnosis prior to operation. Experience has taught him, however, that cases in which the belly-walls are tense, where leucocytosis and temperature are absent, where the pulse is elevated, and the onset has been sudden, present the gravest complications. The blood-count is of value only in these very rare instances where leucocytosis is the only factor favoring operation. We must have teachers who are not afraid of their convictions. Early operation is as surely the *sine qua non* of the treatment of appendicitis as there is a God in Heaven.

Teaching of Regional Anatomy.—Dr. Jackson of the University of Missouri described a new method for teaching regional anatomy by sections and drawings. He exhibited a series of specimens which had been prepared by injecting the body with 50-per-cent. formalin, from which his students made tracings of every organ in the body, its relation to its neighbors and to the surface. Decalcification, except where it may be put to the extremely thin sections of the head, is unnecessary. The sole instruments used are a long butcher's knife and saw.

The Nature of the Cancerous Process.—Dr. Roswell Park of Buffalo said that excepting tuberculosis no medical problem has received as much attention as the question of the etiology of neoplastic growth. Among the oldest of the theories was the dietetic. This possesses, of course, but a historic value. The introduction by Cohnheim of the embryological theory marked a very distinct step forward for it explained the presence of certain cells in teratological growth, while not explaining their development. The only remaining theory worthy of consideration is the parasitic. It is not difficult to conceive of an infinitely broad distribution of a body the line history of whch is as yet shrouded in mystery. Credence is given to this hypothesis by the interesting relations which observations have shown to exist in many forms both of flora and fauna. To make these observations and to correlate the thousand and one details attendant upon collecting data from every possible source demand the service of the clinician, the pathologist, the histologist and the chemist. He outlined in detail some of the arguments in favor of the protozoic nature of the infection, as follows: (1) In the vegetable world tumors are frequent and are fairly well understood. Many of them eventually destroy their host, this type being known as the tree cancer. Almost invariably of parasitic origin the relation between trauma and growth has in these cases often been observed to be a factor. They occur frequently; for example, at sites where water alternately freezing and thawing has produced a lesion in the tissues. Through this the parasite has entered. (2) Comparatively pathology furnishes data of great value. In the invertebratæ numerous tumors have been studied, all of which are undoubtedly of protozoic origin. (3) The infective grunulomata, whose etiology is now so well known, yield to precisely the same sort of treatment as do the carcinomata, furnish one of the strongest arguments in favor of the parasitic theory. (4) Metastases studies from almost any standpoint likewise give credence to the belief. (5) The auto-infectiousness of carcinoma, which is well known, is another favoring factor. The cancer bodies, so-called, must be one of two series—either they are cell degenerations, or they are parasites. They are never seen, nor can they be produced in any except a cancerous process.

Difficulties Attendant Upon the Research.—Far beyond the border land of any other known scientific explorations, this search into the etiology of cancer carries one into utterly untrodden paths, where laws applicable to the world of bacteriology have but little hold. Koch's laws, for example, which have been used by the opponents of the theory to cast upon it doubt and derision, are very likely in no way applicable to this lowly form of animal life. While it is true to a considerable extent, it has been found possible to conform to them, a number of failures to do so has been one of the strongest factors in the circumstantial evidence that this parasite has but little relation to the bacteria.

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Because of the paucity of successful experimental work, accidental clinical explanations are of the greatest value and should always be reported.

Treatment.—While it is yet too early to formulate any rational treatment which shall be directed against the development of this parasite, there is ground to hope that in the not far distant future some drug will be found which, similar to quinine, will terminate its life history.

The Carcinoma Question.—Dr. Nicholas Senn of Chicago said in abstract: (1) The question of the etiology of cancer is the most important medical research of the day; (2) carcinoma results from a typical proliferation of epithelial cells; (3) as carcinoma originates in epithelial cells, it is impossible for it to develop in mesoblastic tissues; (4) histology does not support the parasitic theory; (5) the extension of any tumor to an adjoining tissue is positive proof of malignancy; (6) the increase of carcinoma is more imaginary than real; (7) heredity is a factor which has been much overlooked; (8) age, while rarely over forty, is not unknown below twenty, in which case it is often extremely malignant; (9) seldom follows single injury, often frequently repeated traumas; (10) inoculation has failed to support the parasite theory; (11) direct injection of astringents into the carcinomatous tissues does not stay growth; (12) all sera are worthless; (13) positive cure cannot be claimed until after the twelfth year.

Early Diagnosis of Carcinoma.—Dr. Charles A. Powers of Denver said that it would be trite to outline the need of earliest possible recognition, but about nine per cent. of all cases of carcinoma applying to the surgeon reached him early enough to insure favorable results. It is of the utmost importance that the laity be educated in this matter, as has been done so thoroughly in the case of tuberculosis. The value of blood examinations and of the gastric juice in supposed cases of cancer of the stomach in its latent form are of but little value. Sera are now being produced successfully which in certain latent forms of cancer may have a use similar to tuberculin in tuberculosis diagnosis. This must in our present lack of knowledge rest on clinical observation supported by the microscope. It is questioned by some whether there should be a preliminary microscopal cut. Halsted, for example, says that no tumor should ever be harpooned or cut. On the other hand his colleague, Kelly, does so in every case of cancer.

Mammary Carcinoma.—Drs. W. S. Halsted and J. C. Bloodgood of Baltimore spoke of the multiform varieties of tumors of the breast, which made it difficult to formulate any general law on all of the forms. All forms of breast tumors do not call for removal. From the attitude of general laity it seems impossible at times to follow out one's best judgment and general removal is often demanded. From an examination of the cases occurring at the Johns Hopkins Hospital, 426 in number, 2.4 per cent. were carcinomatous and of these there were 39 per cent. which were operative. When the question of removal is under consideration, the character of the tumor determines the range of the operation. Some do not call for removal at all. Others demand the removal of the tumor at once, and still others that the tumor, as well as a part of the breast should be excised, and in still others, especially when the tumors are multiple and the infection widespread, the muscles of the breast, as well as the glandular and lymphatic structures, should be ablated. Perhaps the most important point with reference to the treatment of the tumors of the breast is the early diagnosis of the condition. Most cases are seen too late and the disease has progressed beyond the point of hopeful prognosis.

Carcinoma of the Cecum.—William J. Mayo of Rochester, N. Y., said that ileocecal carcinoma is not by any means infrequent. Seven per cent. of all malignant growths of the bowel involves the cecum. They may occur at any age and, as is well known, their almost invariable tendency is to form annular constrictions. The duration may often be very prolonged, sometimes to the extent of twelve years. Of the symptoms pain, diarrhea, and tumor, are the most constant and of the greatest diagnostic value. The differential diagnosis from tuberculosis is difficult. Desmoides and impaction of feces are other conditions which occasionally obscure the diagnosis.

Resection of High Rectal Carcinoma.—Dr. Robert F. Weir of New York said that all surgeons were agreed that Kraske's operatoin presents difficulties of technic which are sometimes insurmountable. Especially is this true in the case of high line growths. Maunsell suggested the pulling down of the tumor via the anus, producing a sort of artificial intussusception. The objection to this procedure is that it cannot always be delivered through the dilated and freely incised anus. His operation consists in the opening of the abdomen, in separating the bladder from its attachment to the gut, and in freeing the latter from peritoneum to its last rectal segment. He then ties the middle sacral artery, ligates the gut below the tumor, divides it, carries the tumor and upper gut through the abdominal wound, and removes the tumor. An assistant now passes a delicate forceps through the dilated anus and seizes the two cut margins of the gut, drags them with but little difficulty through the anus, where with perfect freedom a through-and-through anastomosis is made. The reunited gut is without difficulty returned to the pelvis, a drainage-tube is inserted in the perirectal space, and the abdominal wound is closed. Enough cases have not been operated by this method to justify its too warm praise, but in those which Dr. Weir has done it has seemed to him satisfactory in every detail.

Surgical Treatment of Malignant Disease.—Dr. F. S. Dennis of New York said that careful study of life-insurance statistics shows that there has been an appalling increase of cancer

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during the past thirty years. Most of these statistics are of recent gathering, as the life of most of the life-insurance companies is still so short that reliable statistics are not as yet correlated. A very striking feature is an enormous increase of this disease in communities which by active emigration have lost the younger elements, leaving the older inhabitants. This naturally is an apparent rather than a real increase. An early excision of the tumor will result in 83 per cent. of cure. Should recurrence occur within three years it is probably a case of reinfection rather than of metastasis. Medicinal treatment is not advisable. Recent reports of the advisability of using thyroid extract are not borne out by large experience. Thyroid may relieve the pain and mitigate the odor, but is not in the least curative. Caustics externally may be indicated in certain restricted cases. Coley's fluid has proven of service in the treatment of sarcoma.

Method of Operating on Carcinoma of the Tongue.—In the absence of Dr. J. Collins Warren of Boston Dr. Christian Fenger of Chicago outlined his method of operating on these cases. He limited his discusssion to those conditions in which the posterior half of the tongue, back as far as the soft palate, was involved. As yet the history of these cases forms but a melancholy chapter of surgical annals. The cures cannot be rated higher than ten per cent. and, if these cases of carcinoma of the tip of the tongue are included in the statistics, it gives a much higher percentage of fatality where the growth is posteriorly situated. A knowledge of the distribution of the lymphatic vessels and glands is here of great importance, as in cancer of the breast; indeed, until this fact is recognized the statistics will not improve. Death invariably occurs in cases not operated upon in from five to eighteen months. No ulcer of the mouth should be allowed to pass without microscopic examination. No antisyphilitic treatment is indicated because of the danger of delay. The two factors most dreaded by patients when they are told that they are to lose the whole tongue are aphonia and maldeglutition. By the introduction of plastic surgery the immense aggregation of scar tissue, which develops under the old method of operating, contracts, fixes the floor of the mouth, and, far more than the loss of the larynx, leads to these grave and distressing sequelæ. The best method of obtaining this flap is by making it doubly pedunculated, loosening it from the neck and transplanting its center bodily over the abraded surface. Of great importance is the resection of the inferior maxilla. Without this the deeper lymphatics cannot possibly be reached.

Dr. Crile of Cleveland advocates the use of delicate clamps which, with finely adjusting screws, can be placed on arteries during the time of operation. His belief is that they do not injure the coats to any dangerous extent.

Dr. Rodman of Philadelphia said that the belief in the parasitic theory of cancer is struggling into life. Until very recently cancer was unknown among the negroes and infants. It is difficult to explain this except by assuming a parasitic cause.

Dr. R. H. M. Dawbarn of New York endorsed Dr. Bloodgood's view of the desirability of immediate extirpation of all breast tumors as soon as seen. In exsections of the tongue, the chief cause of death is shock, which all are now agreed is chiefly due to hemorrhage. He could not agree with Dr. Fenger, who felt that the carotids should not be ligated, because it has been often shown that within a few days so free is the anastomosis that the facials begin to pulsate. Furthermore this ligation does away with the need for tracheotomy. In deaths which occur later the cause is sepsis. As in every case where a clean wound is subsequently to be bathed with pus, he rubs into the tissues a copious amount of aristol. This forms an insoluble albuminate which gives to the organism the same protection from absorption of toxin as is afforded by granulation tissues. He never packs the wound but always irrigates. His patients are left as nearly upside down as possible for weeks. Grafting the stump of the twelfth nerve into the remnants of the tongue probably gives those muscle remnants some power over the epiglottis.

(To be continued.)

AMERICAN PEDIATRIC SOCIETY.

Thirteenth Annual Meeting, Held at Niagara Falls, May 27, 28 and 29, 1901.

(Concluded from Page 878.)

SECOND DAY—MAY 28TH.

Glass Sun Room on City Houses.—By Dr. W. P. Northrup's advice, such a structure has been built on the roof of a private house in New York. It is practically an outdoor playroom, where fresh air and sunlight can be had without the dust and noise and dangers and dirt of the city streets. There is ample protection against March winds, and the playhouse can be used all winter. The family for whom the playroom was built had the satisfaction of seeing their only daughter, formerly a very delicate child, grow well and strong. Physicians should advise the construction of such playrooms where the need exists and the money can be provided.

Duration of Summer Diarrheal Attacks Under Treatment.—Dr. Charles Gilmore Kerley presented an analysis of 555 cases. Ages ranged from three months to four years. A proportion were said to be purely breast fed; but probably very few tenement children answer that description. In some form or under some pretext, other food is almost certain to be used from time to time among this class. Fortunately the cost of proprietary foods prevents their use to any great extent among the

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very poor. The cases referred to were brought to the dispensary for treatment because of diarrhea between June and September. Of the total number 80 cases recovered in three days; 168 cases recovered in four to seven days; 79 cases recovered in seven to twelve days; 62 cases recovered in twelve to fourteen days; 11 cases recovered in third week; 58 cases recovered in fourth and fifth weeks; 10 cases recovered in sixth to eighth week; 6 cases recovered in eighth to tenth week; 15 cases recovered in third to fifth months.

Mortality.—Of 499 cases treated to the conclusion of their illness, 10 died—a mortality of but 2 per cent. As several thousand children perish in New York annually from summer diarrhea, the inference is that many of such deaths are preventable.

Management of Cases.—Regardless of the severity of the symptoms, the character or number of stools, duration of illness, or reputed character of diet, the first step is to stop the milk. In these cases there is or soon will be an infected gut; hence the intestines should be made as poor a culture tube as possible. Every case must be treated vigorously whether the symptoms are mild or severe. In 218 autopsies conducted by Dr. Kerley, he learned the futility of attempting to judge the actual condition of the intestine by the symptoms. Coarse lesions are found constantly where none are suspected during life. Having stopped the milk, do not resume its use until the stools approximate the normal. Relapse follows earlier resumption of milk diet. Cereal water is used as a substitute—barley-water usually. If a change is desired, add to barley-water a percentage of mutton-broth or beef-juice. The broths must not be added in too large amounts. Dr. Kerley does not believe in the use of brandy or whisky in these cases. White-of-egg mixtures have been discarded; many children fail to digest them. By the use of carbohydrates, the condition in the intestine is changed from one of putrefaction to one of fermentation, the latter status being less favorable for the growth of bacteria. Dextrinized gruels are useful because they permit a stronger diet to be given. The mother is instructed, where fever occurs, to give cold water sponge-baths for fifteen minutes at a time.

Use of Drugs.—After trials of tannigen, salol, resorcin and many other drugs, treatment by drugs narrows itself down to the use of four agents, calomel, castor oil, bismuth and opium. Calomel is preferred, where there is nausea or vomiting, in doses of $^1/_{20}$ to $^1/_{10}$ grain, repeated. Castor oil is used especially in acute septic cases where prompt cleansing is desired. Bismuth subnitrate is given in 10-grain doses every one or two hours regardless of the age of the child. In order to be of service it must produce black stools. If necessary for the production of the sulphide, one-grain doses of precipitated sulphur are administered with the bismuth. Indications for opium are pain, tenesmus, frequent stools; four to five stools daily are desirable, however. Active laxatives are suitable where there are no stools or insufficient stools.

Irrigation of Colon.—A good measure is always overdone; irrigation of the bowel is an illustration. The cases in which it is of most benefit are those which have a moderate number of green stools, with or without blood. Always ask yourself, Is there something to be removed? Normal salt solution is as good as anything that can be used for the purpose; where blood is coming away, 1 per cent. tannic acid may be added. Lukewarm solutions are preferable; if fever exists, use solutions of 70° F.

Education of Mothers.—The mother needs minute instructions to insure cleanliness and proper care of food, bottle and nipple. Mothers must be told to stop milk and give castor oil with the first signs of intestinal derangement. Sooner or later the municipality will recognize the need of establishing laboratories under proper control, where the poor can be sent to obtain what is needed in the way of milk, gruels, broths, etc. Stations established by private benefaction are inadequate to meet the demand and lack responsible scientific control.

Discussion.—Dr. J. P. C. Griffith added a word of warning against the use of powerful irrigating solutions. In the uncertainty as to the condition of the intestine it is impossible to foretell when harm will result.

Dr. Koplik believes that dextrinized gruel is not indicated until vomiting has ceased. During the first few days albumin water is one of the most useful means of tiding over a difficult period. Besides the purpose of mere irrigation, hot rectal injections serve as stimulants where such are needed. A danger in milk laboratories not under control is that mothers run there and get as many bottles as they please; overfeeding results.

Dr. Buckingham could see no reason for outlawing brandy; in some cases it is useful.

Dr. Holt laid stress on the necessity for rest; babies are tired out by excessive attention. To Dr. Kerley's list of four drugs Dr. Holt would add a fifth—sulphate of magnesia as an initial cathartic.

Dr. Winters agreed as to the prompt discontinuance of milk in summer diarrheas, but had doubts as to the wisdom of substituting cereals. At the Demilt Dispensary the use of cereals alone and in combination with animal broths has been unsatisfactory. Where stimulation is needed, very hot water is the proper thing to use; the avoidance of alcohol is important.

Dr. Rotch asked why it was considered necessary to give anything at all during the

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first forty-eight hours, when the alimentary tract will absorb nothing. The tissues cry out to be let alone. Barley-water can scarcely be recommended for its nutritive value, and for the craving of the infant at this time sterilized water will suffice. As to rectal irrigation, why not, before discussing its merits, drop the term "summer diarrhea" and decide whether we are contemplating a condition of fermental diarrhea or one of true ileocolitis. By a modern process, fat-free milk can be had without sugar, but representing a definite amount of proteid. This is better than a preparation of white of egg empirically administered.

Feeding of Premature Infants.—Dr. Charles W. Townsend described the feeding of an incubator baby. The birth was only two weeks premature; nevertheless the weight of the child was only two pounds, twelve ounces, a fact which was explained by the finding of numerous large and small areas of placental necrosis. The incubation was conducted at a temperature of 85° F., maintained by hot water. In such surroundings the child remained for six weeks. Its initial weight was doubled in twelve weeks, and at six months the baby weighed twelve pounds. By pouring off the upper part of a quart bottle of fresh, clean milk allowed to stand five hours, cream was obtained having approximately 10 per cent. of fat. By modification a mixture was obtained having a strength of 0.50 per cent. fat, 4.20 per cent. sugar, and 0.20 proteid; of this mixture one dram was at first administered every hour. For easy calculation Dr. Townsend uses as his proteid constituent white of egg, which closely resembles lactalbumin; white of egg is readily obtained and convenient to weigh. Gradually increasing the strength of the mixture, Dr. Townsend was administering, at the end of the first month, fat 3.50, sugar 5.40, proteid 1.40; of this fourteen drams at a feeding. At three months the mixture contained fat 4.00, sugar 5.60, proteid 1.60. At eight months cereal was added in the form of barley-water or oatmeal-water. Dr. Townsend does not usually give cereal before the sixth, seventh or eighth months. In some cases it is required early, our guides being pallor and loss of weight.

THIRD DAY—MAY 29TH.

Election of Officers.—Dr. W. S. Christopher of Chicago was elected President; Dr. C. W. Townsend of Boston, First Vice-President; Dr. John Dorning of New York, Second Vice-President; Dr. S. S. Adams, Secretary; Dr. J. Part West, Treasurer; Dr. W. L. Carr, Recorder and Editor. Dr. T. M. Rotch was added to the Council of the Society. Dr. David Edsall of Philadelphia was made a member.

Congenital Hypertrophic Pyloric Stenosis.—Dr. Saunders presented a specimen from a child who died at the age of five weeks with the classic symptoms of congenital pyloric stenosis. The baby retained at most two meals, then the whole was vomited. Operation was advised and refused. The specimen shows hypertrophy of the entire muscular wall. Near the pylorus is a large thick ring of cartilaginous feel, which, however, on microscopic examination, reveals no cartilaginous change. The mucous membrane is thrown into thick longitudinal folds.

Dr. L. Emmett Holt advised caution in drawing conclusions from stomachs found contracted after death. Mere contraction with apparent thickening and prominent rugæ is not proof of hypertrophy. Dr. Holt has seen specimens from children from three weeks to three years of age quite as contracted as the one presented to the Society, yet there was nothing the matter with the stomachs; they simply were empty. While in the present case there seems to be pyloric thickening, the logical result of stenosis would be dilatation.

Dr. Saunders said the clinical history was important in the case under discussion; it was a classic history of stenosis. The postmortem findings confirmed the diagnosis. The fact that the usual dilatation did not occur in this case added to its interest.

Monster by Defect.—Dr. A. C. Cotton of Chicago presented a specimen delivered to him by Dr. J. M. Lang. The most marked defect is the shortness of the extremities; at first glance the thighs and arms seem to be wanting. A skiagram reveals but one bone in each extremity—probably humeri and femora. The hands and feet are distally clubbed and partially webbed. The cortical substance of the brain is attenuated as if by pressure, and wide separation of the parietals adds to the suggestion of a previous hydrocephalus. At the umbilicus is an omphalocele with the funis at its upper border.

Growth and Development at Puberty.—Dr. W. S. Christopher presented a series of tables and graphic curves based upon the measurement of over six thousand children in Chicago schools. The data represented a study of stature, weight, height sitting, endurance [ergograph], strength of grip of right and left hand, vital capacity. A careful study of normal rate and range of growth and development will furnish the means for the ready detection of pernicious variations. A puberal exaltation of growth has previously been shown as to height and weight; by these tables a similar exaltation of life processes is shown by a larger variety of measurements. Dr. Christopher called attention to the necessity of employing skilled and reliable assistance in pursuing this class of study. Observations made by teachers in the public schools are absolutely worthless and cannot be made the basis of scientific reasoning.

Etiology and Prophylaxis of Pubescent Morbidity.—An increased rate of growth and

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increased development of physical power are characteristic of the puberal period. The sexes differ in the direction taken by this exaltation of life processes. In girls, grip, endurance and vital capacity [volume of expired air] do not increase as rapidly as in boys; on the other hand, girls at this period increase in weight and height more rapidly than boys.

Puberty is a period of great individualization, and calls for a wide range of elasticity in the physical management of the child. It is notable that while at puberty mortality is low, morbidity is high, and the great etiological factor in pubescent morbidity is unbalanced physical development. Neuroses and psychoses are often manifestations of the turmoil of this period. If in a child an excessive development of height or weight overtaxes the organs of nutritive supply, the child is reduced to a condition of vital bankruptcy. Such cases Dr. Christopher treats with rest, improved nutrition and the much-despised shoulder-braces. In treating cases of faulty development we must consider such factors as food-supply, condition of nutritive organs, condition of blood, condition of eliminative organs, type of general metabolism.

Dr. W. D. Booker said that Dr. Christopher's studies would be of incalculable benefit to the profession and the community. The Society will look for further enlightenment from the same source.

Dr. L. Emmett Holt said that for some years it has been his practice to record from time to time measurements of head, chest, height and weight in growing children. By this means attention is promptly called to abnormalities. A physician who notices that a child's chest measurement is small realizes that something is radically wrong in that child's life.

Arsenical Poisoning.—Dr. John Lovett Morse of Boston reported a case of arsenical poisoning in an infant. There was marked irritation of the kidney, with albumin, blood and casts in the urine; loss of weight and pallor of skin indicated a disturbance of nutrition; the spleen was enlarged. The source of the arsenic was found to be the blue lining of the baby's bassinet. When the child was removed to another place its condition began to improve; weight and color became normal, the spleen ceased to be palpable, and the urine lost its abnormal constituents. During the illness a cardiac murmur and venous hum were noticed; these were gradually lost. During convalescence the patient developed an acute coryza, and renal complications developed afresh. The child has recovered from its cold, but albumin and casts continue without, however, giving rise to constitutional symptoms.

Temperature in Terminal Tuberculosis.—Dr. S. S. Adams of Washington said he had been struck with the very wide fluctuations of temperature in the later stages of pulmonary tuberculosis in a series of cases in children from three to eleven years. There were no chills, nor sweats in these cases, no cerebral signs of hyperpyrexia—in short, no evidences of septic complications except leucocytosis. The children seemed comfortable and took food regularly even when the temperatures were highest. Morning temperatures were in many instances too low to be recorded by the clinical thermometer. Typical cases ranged from 96° F. in the morning to 105.6° in the evening. Cavities existed in some of the cases—not in all—but the clinical feature to which special attention was called was uniformly present. While fluctuating temperature is frequently spoken of in the description of similar cases, the immense range of the variations is not usually mentioned.

Dr. J. P. C. Griffith described cases of bronchopneumonia in which showed the same type of temperature; his cases eventuated in tuberculosis, but did not go on to the softening stage. In other instances such temperatures had defied absolute diagnosis; physical signs could not be demonstrated, and the patients proceeded to recovery.

Dr. L. Emmett Holt regarded Dr. Adams' cases as probably complicated with streptococcus infection. Tuberculous processes do not alone cause such temperatures; septic pulmonary processes do, even without a general streptococcic blood-infection.

Measles Complicated by Appendicitis.—Dr. Harold Williams reported a case of measles in which pain and tenderness of increasing severity in the region of the appendix began twenty-four hours after the appearance of the eruption. Dulness and induration were absent; temperature, 104° F. Dr. Arthur Cabot was called in consultation, together with Dr. McCullum, and immediate operation was decided upon. A gangrenous appendix was removed. The temperature fell to normal the following day and did not subsequently rise. The case shows that in a weakly boy of twelve years measles is not a contraindication to operation.

Treatment of Diphtheria of Conjunctiva.—Dr. L. Emmett Holt placed on record a case of diphtheritic conjunctivitis which yielded readily to antitoxin.

Dr. Henry D. Chapin said that after treating five cases of diphtheria of the eye he believed that, while the administration of antitoxin should be resorted to as a matter of routine, local treatment has as much to do with saving the eye as any other measure. In his cases ice pledgets and constant irrigation were used.

Dr. T. M. Rotch did not consider it wise to lay too much stress on local treatment. Such treatment should be carefully followed out, but to neglect the prompt use of antitoxin in every case would be to court unnecessary danger.

Dr. Charles G. Kerley spoke of two cases of diphtheritic rhinitis which occurred in the children of a New York laryngologist. The latter treated them unsuccessfully for four weeks as ordinary catarrh. Constitutional symptoms were absolutely wanting. Cultures showed the presence of the diphtheria bacillus in both nose and

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throat. One thousand units of antitoxin were given. The children were cured.

Hemorrhage in the Newborn.—Dr. L. Emmett Holt was once called to see a case where, twenty-four hours after birth, a robust nine-pound baby began to vomit blood. This continued throughout the day at fifteen-minute intervals. The mother had lost a baby two years before on its fourth day from gastro-intestinal hemorrhage and was much alarmed. Dr. Holt began the administration of one-grain doses of suprarenal extract at one-hour intervals. When twelve doses had been given the hemorrhage ceased. A practical obstacle to the long-continued administration of suprarenal extract is puckering of the esophagus; the first few doses, however, are easy to get down. Similar treatment was tried in another case reported to Dr. Holt, but here the baby died of intracranial hemorrhage.

Dr. J. L. Morse said he had tried suprarenal extract in a case similar to Dr. Holt's, but had applied it externally in the form of a powder. The result was negative. Ultimately Monsel's solution was used internally and the hemorrhage ceased.

Possible Infectious Nature of Such Hemorrhages.—Cases of hemorrhage in the newborn, said Dr. Rotch, are frequently not hemophilia, but possibly are infectious. A rise of temperature is not uncommon, though none was present in Dr. Holt's case. Difficulty in the interpretation of the value of therapeutic measures arises from our ignorance of the natural course of the disease. These cases are not necessarily fatal even when complicated with ecchymosis and intraocular hemorrhage. We cannot yet answer the question whether subsidence of hemorrhage means that our drugs are efficient or that the disease has run its course. Nevertheless it would be wise to use suprarenal extract in additional cases.

Dr. J. C. Wilson, in discussing the value of suprarenal extract, described the case of a young man admitted to the hospital with gonorrhea. Obstruction led to the use of the catheter, and the bladder was found to be filled with blood, which was drawn off. Vesical distention with blood recurred, and the patient developed hemoptysis, epistaxis, purpura, these continuing for three days. Suprarenal extract was then given in five-grain doses; bleeding ceased after six doses and recovery followed.

Dr. Holt said that the term hemophilia, as applied to hemorrhages in the newborn, is a misnomer. In hemophilia the hereditary element is the main factor; this condition does not become manifest during the first few weeks of life. Hemorrhage in the newborn is a self-limited disease, but the bleeding does not always cease when it should. In the case reported suprarenal seemed to have had prompt effect.

Sacculated Empyema with Prolonged Temperature.—A baby was admitted to the service of Dr. L. Emmett Holt with gastro-intestinal symptoms. After ten days the temperature suddenly rose to 106° F., and during eleven weeks following fluctuated between normal and 105°. The pulse-temperature ratio remained about 3:1. Pulmonary consolidation was suspected, but physical signs were never definite; slight dulness and râles were detected on both sides alike. Intestinal symptoms were never very marked; but throughout its illness the child had from four to five stools each day. Widal test and search for plasmodia negative. Blood-cultures negative. By passing a catheter sputa were obtained for examination for tubercle bacillus. This method Dr. Holt considers superior to scraping the back of the throat. In the present case no tubercle bacilli were found. Successive blood-counts showed leucocytosis 22,000, 14,000, 11,000. Wasting was progressive. The autopsy revealed muco-purulent bronchopneumonia, adherent pleuræ on both sides, and a sacculated empyema holding two ounces of pus on the diaphragmatic surface of the left lung.

Prolonged High Temperature Without Wasting.—Dr. Henry D. Chapin reported a case of persistent high temperature which was studied in the hospital for two months without positive diagnosis. Every fifth day the temperature rose to 104° or 105° F. Quinine, Warburg's tincture, and Fowler's solution did not influence the fever. Between the exacerbations of fever the child felt perfectly well. Examination of blood and sputa for malaria, typhoid and tuberculosis, negative. After two months the child went home and eventually recovered. Interest in the case resided in the fact that there was no wasting; where fever is due to tuberculosis wasting is an almost invariable accompaniment.

BOOK REVIEWS.

FIRST AID TO THE INJURED AND AMBULANCE DRILL. By H. DRINKWATER, M.D. The Macmillan Company, London and New York.

THIS little primer is compiled from a series of lectures given by the author in "first aid" courses. It is redolent with most useful hints and directions for treatment of various injuries which may happen. The treatment of the subject-matter is very simple and clear. There is a very valuable chapter devoted to the treatment of poisoning by various drugs. The second part of the book is devoted to ambulance drill. Here, very completely, but simply, the author shows the proper methods for removing patients from one place to another, by means of hand litters and ordinary stretchers. The text is very richly illustrated so that one can readily comprehend every portion of it.

This booklet is one of many of its kind, but we are sure that it will prove a most valuable assistance to those interested in "first aid" to the injured.

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INFANT FEEDING IN ITS RELATION TO HEALTH AND DISEASE. By LOUIS FISCHER, M.D., Attending Physician to the Children's Service of the German Poliklinik and of the West Side German Dispensary; Professor of Diseases of Children in the New York School of Clinical Medicine, etc. The F. A. Davis Company, Philadelphia.

A SOMEWHAT detailed knowledge of the modification of milk and other foods for infants has become a necessity for the general practitioner. He should therefore welcome this work which gathers together the accepted ideas on the subject, and encloses them in small compass. After a concise description of the infantile alimentary tract, breast-feeding, mixed feeding, wet-nursing and weaning, the use of modified milk in health is discussed at some length, including its pasteurization and sterilization. A chapter on nipples and nursing-bottles, and a dietary with recipes for various junkets, gruels, etc., are not untimely. The consideration of feeding in disease covers the modification of foods in constipation, diarrhea, and the other common diseases to which infants are susceptible. Rectal feeding, nasal feeding, and the feeding of incubator-babies and diphtheria-intubation cases fill chapters of practical value. The works of other writers have been freely drawn upon, the author criticizing freely and adding the conclusions from his own experience.

A MEDICO-LEGAL MANUAL. By WILLIAM W. KEYSOR, Lecturer on Medical Jurisprudence in the Omaha Medical College and Judge of the District Court, Omaha, Nebraska. Burkley Printing Company, Omaha, 1901.

THE author says very well in the preface that works on medical jurisprudence are written seemingly for lawyers rather than doctors. Pages are devoted to the signs of pregnancy, chapters to wounds and a volume to poison. Such a work is of little value to the physician who can always find the information it conveys more amply and accurately stated in special treatises in his library. It is to fill the long felt want of a brief manual which shall convey to the doctor especially the legal points necessary for his calling that the present little book is issued.

The work seems to accomplish its purpose very well. The chapter on "Evidence" is particularly practical and would enable many a physician who is about to be a witness to save himself from being made the sport of a brow-beating cross questioner. The chapters on "The Mind Diseased," on "What Constitutes a Mind in Law" and that on "The Identification of Person" are very interesting, condensed statements of large important subjects for which much seeking would have to be done in many books. The book-making and binding is scarcely worthy of the contents of the book.

A TEXT-BOOK ON PRACTICAL OBSTETRICS. By EGBERT H. GRANDIN, M.D., with the collaboration of GEORGE W. JARMIN, M.D. Third Edition Revised and Enlarged. F. A. Davis Co., Philadelphia and Chicago.

IN this third edition, the authors have added a chapter dealing with the anatomy of the female organs of generation and with embryology. The aim has been to be as concise as possible with the anatomical description; likewise with embryology which commences with a description of the Graafian follicle and ovum and traces the changes taking place in the ovum following fecundation, down to the time of its casting off at full term.

Labor, both normal and abnormal, is fully described and the mechanical principles involved are well brought out. The method of procedure in abnormal cases is made perfectly clear and the student is easily able to grasp the situation intelligently from the rules laid down. Considerable space has been devoted to the care of the newborn infant which will be appreciated by most practitioners. The normal and pathological puerperium is well described and the methods of conducting it are such as are approved by the foremost obstetricians of the present day.

Under obstetric surgery artificial abortion and induction of premature labor are described, also forceps, version, symphysiotomy, Cæsarian section, embryotomy, surgery of the puerperium and ectopic gestation.

The book is well written and should appeal strongly to the student body and general practitioners. The illustrations are good, yet hardly up to the standard. There are 52 full-page plates and 105 illustrations in the text. The book contains about 500 pages.

BOOKS RECEIVED.

The MEDICAL NEWS *acknowledges the receipt of the following new publications. Reviews of those possessing special interest for the readers of the* MEDICAL NEWS *will shortly appear.*

ATLAS AND EPITOME OF LABOR AND OPERATIVE OBSTETRICS. By Dr. O. Schaeffer. Edited by Dr. J. C. Edgar. 12mo. Illustrated. W. B. Saunders & Company, Philadelphia and London.

ANATOMICAL ATLAS OF OBSTETRICS. By Dr. O. Schaeffer. Edited by Dr. J. C. Edgar. 12mo. Illustrated. W. B. Saunders & Company, Philadelphia and London.

NEW REMEDIES AND THERAPEUTIC MEASURES. By Dr. J. M. Wainwright. 12mo, 225 pages. G. P. Engelhard & Company, Chicago.

THE ACUTE CONTAGIOUS DISEASES OF CHILDHOOD. By Dr. M. P. Hatfield. 12mo. 135 pages. Illustrated. G. P. Engelhard & Company, Chicago.

THE OPTICIAN'S MANUAL. By Dr. C. H. Brown. 8vo, 417 pages. Illustrated. Fourth Edition. The Keystone, Philadelphia.

INTERNATIONAL CLINICS. A Quarterly of Clinical Lectures. Edited by Henry W. Cattell. Vol. I. Eleventh Series. 1901. J. B. Lippincott Company, Philadelphia.

SELF-EXAMINATION FOR MEDICAL STUDENTS. 3,500 Questions on Medical Subects. Third Edition, Enlarged. P. Blakiston's Son & Co., Philadelphia.

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THE MEDICAL NEWS.

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ORIGINAL ARTICLES.

DECORTICATION OF THE LUNG FOR CHRONIC EMPYEMA.*

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DECORTICATION of the lung is a term applied to designate a procedure intended to relieve the lung from its environment in cases in which expansion is prevented or interfered with by the presence of a greatly thickened pleural covering. The first operation of this kind on record was done by the writer October 7, 1893[1], and reported in the *Medical Record* Dec. 30, 1893. A short abstract of the case is herewith given:

The patient, a female aged thirty-five years, was admitted to my service at the Methodist Episcopal Hospital with a history of having suffered from an intractable chronic empyema of the right side following an attack of grip nearly two years previously. Examination showed a sinus with a depressed external opening lined with integumentary tissue, leading directly inward from the interspace between the fifth and sixth ribs in the axillary line for the distance of about five inches, at which point it terminated in a small cavity. This sinus was the site of a tube drainage which had been instituted two years previously. Many attempts had been made during this time to dispense with this tube, but without success, this invariably leading to a reaccumulation of the purulent fluid and an accession of febrile symptoms. The previous history of the case showed that many attempts had been made to effect obliteration of the cavity and closure of the sinus, including persistent antiseptic irrigation, curetting and stimulating injections, but without result. The physical signs showed that the lung was retracted to the costopulmonary angle above the third rib, the left lung doing practically all the work, with consequent dyspnea upon exertion.

On October 7th an elliptical-shaped incision was made to include the orifice of the sinus, the soft parts cleared, and about 3½ inches each of the fifth and sixth ribs removed. The greatly thickened costal pleura was then revealed firmly attached to the chest-wall and through which the sinus passed in the direction of the median line of the body. Commencing at the site of the opening in the chest-wall, the pleura was isolated by blunt dissection in the direction of the diaphragm until the latter was reached. It was then peeled off from the latter until its limit toward the median line was reached, where it was found to rest against the displaced pericardium, from which, after much difficulty, it was finally detached. This dissection was greatly impeded by the movements of the diaphragm, as well as those of the heart. The dissection was completed by lifting the mass and finally detaching it from the lung above. Considerable expansion of the lung followed at once, and in the course of twenty-eight days this was so far complete that the normal vesicular murmur was present to the level of the seventh rib. The heart had so far receded that its apex beat appeared well to the left of the sternum. This patient is still living and apparently in the best of health. Save for a slight sinking in the chest-wall at the site of the resection of the ribs, there is nothing to suggest the previous existence of an empyema.

The conception of this method of curing an old empyema was entirely original with myself, and was designed for the twofold purpose of permitting, by a formal and radical removal of the greatly thickened and adherent pleura, of the expansion of the lung, as well as the obliteration of a suppurating cavity the existence of which was a serious menace to the patient's health. I was not then aware that Delorme, on April 3, 1893, before the Congrès Française de Chirurgie, had reported some experiments made upon the cadaver with the view of determining the feasibility of such an operation. Delorme's first operation upon the living subject, however, was not performed until January 20, 1894, and was reported before the Académie de Médecine and published in the *Presse Médicale*, Paris, 1894, p. 97, all three of which events took place after the report of my case appeared. In a subsequent study of the subject[2] Delorme does not carry his claim farther back than 1894, and makes no formal claim to priority; although, in the last-named communication, he again reports his own case as "Case I.," reporting mine as "Case II.," suppressing the date of both the operation and report of my case.† Delorme's case succumbed to "cerebral and abdominal tuberculosis, the presence of which was unsuspected," but the operation served, as stated

*Presented to the Section on Surgery and Anatomy, American Medical Association, June 6, 1901.

†The entire credit of this operation is given to Delorme in the most recent publication upon the subject, that of Augros, entitled "Traitement de L'Empyème Chronique par la Decortication du Poumon (Operation de Delorme)." No mention is made in this paper of the dates of my previous operation and report, although the date of Delorme's first operation is specifically mentioned in the following words: "M. Delorme eut l'occasion d'appliquer sa méthode le 20 janvier, 1894, et il en rendait compte en ces termes quatre jours plus tard à l'Académie de médecine." Delorme in reporting his case before the Académie de médecine in January, 1894, used these words; "Le courant, en présence de MM. les médecins principaux Dieu et Nogier, des stagiaires du Val de Grace, de MM. les médecins-majors Gigon, Formegol, avec l'assistance précieuse de M. le professeur agrégé Mignon, du médecin-major Marcus, etc., je pratiquai à ma clinique l'opération suivante."

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by Delorme, to illustrate the practicability of decortication.

Delorme records 16 subsequent cases, making 18 in all.‡. Of these one was by Lamotte, a Belgian surgeon; one by Lardy, of Constantinople; one by Sorel, of Havre; one by Djemil Bey, of Constantinople; two by Tavel, of Berne; one by Reclus; three by Guinard; one by Boeckel, of Strasburg; one by Girard, of Berne. In a footnote he refers to two additional cases, one by Roux, of Lausanne, and one by Girard, of Berne. The remaining two cases of the 16 were operated upon by Delorme himself.

The most striking case in Delorme's list is that attributed to Djemil Pasha, which was reported to the Medical Society of Constantinople in 1895. The patient was a "whirling dervish" who had suffered for five months with an extensive pyopneumothorax due to a penetrating wound. The fifth, sixth and seventh ribs were resected and the lung liberated from its environment, after which it immediately refilled the corresponding half of the thoracic cavity. The patient was discharged cured on the twenty-sixth day. Three months afterward he was found to be perfectly well, and able to resume the dance or "whirling" ceremonial of his order.§

Augros, in his paper, follows Delorme's list accurately and gives three additional cases, one occurring in the service of M. Gangolphe, the details of which are supplied by Siraud, his adjunct; and another by Vinay and Jaboulay, and a third by Delagenière.

Dr. Alex. Hugh Ferguson, of Chicago, presented a paper in the Surgical Section of the American Medical Association at the forty-seventh annual meeting in May, 1896, and which was published in the *Journal of the American Medical Association* for January 9, 1897, upon "Thoracoplasty in America and Visceral Pleurectomy, with Report of a Case." He speaks of my operation as the pioneer visceral pleurectomy and refers to three other cases, those of Delorme and Reclus (already referred to) and Gallet (*La Clinique,* June, 1895), and adds one of his own, which was done on December 12, 1895. A careful study of the pathologic changes in this case was made by Dr. Ferguson.

Cestan, in his voluminous work[3] devotes a chapter to decortication, and speaks of the operation as the most recent and interesting contribution to the surgical treatment of empyema. He states that, in its aim it is superior to all other resources. He gives the credit of the new procedure to Delorme upon the basis of the latter's contention that the active expansion of the lung should play a part in the treatment of certain cases of empyema, acknowledging, however, that my case was operated upon and reported prior to Delorme's. Jordan, in an article entitled "Erfahrungen über die Behandlung veraltetes Empyema"[4] reports a case, the first that had been done in Germany. The patient had entirely recovered in 10 weeks.

Verneuil, in an article entitled "La Chirurgie Pleuro-Pulmonaine"[5] refers to Gallet's two cases, citing one as terminating favorably, and one in which an unsuccessful result was reached. Reference is likewise made in this article to the fact that Gallet, in deciding whether or not to operate, is "actuated by radiographs of the lungs." Verneuil likewise states that König and Duplay have both had practical experiences with the operation, and are not disposed to look upon it with favor. Nevertheless, Kocher recommends decortication in the last edition of his "Chirurgische Operationslehre" 1897, and in Duplay's article (Des Fistules Pleurales Succedant a L'Empyème)[6], while he alludes to the operation of decortication only to condemn it, he gives no cases of his own or others.

In a case of empyema of traumatic origin reported by Cestan as having been operated upon by Veslin, the operation was done sixteen months after the injury. In the interval a thoractotomy had been done, which resulted in a fistula, and eight months later Estlander's operation with curettage was followed by no result. The attempt at decortication was only partially successful, the upper third being impossible of detachment. The thoracic flap sloughed, leaving a large opening with exposure of the lung. In the course of the following six months the defect left by the slough had nearly closed and a good functional result was said to have been obtained. Gross[7] attempted the operation in two cases, but the lung and pleura were so fused together that it was found impossible to complete the operation. In one of his cases, he partly removed the pleura, but it remained adherent wherever pleuritic bands had formed. Pascale[8] read a paper at the Congress of Italian Surgeons for 1899 upon decortication of the lung. The paper is largely a résumé of the works of Delorme, Cestan and others. Pascale added five new cases operated upon in 1897 and 1898. Of these four were completely successful; in one a pleural fistula remained. In the discussion upon Pascale's paper Romans stated that he had performed the operation several times, and that it did not always succeed. He cites one case in which expansion of the lung did not follow decortication. Siro likewise reported two personal cases, in which the results were favorable.

The following additional case is introduced, although the result so far as the function of the lung is concerned cannot be as yet stated. The operative features offer some points of

‡ In Cases X. and XII. of Delorme's list the attempt to detach the visceral pleura failed. The first of these was one of Delorme's cases in which Estlander's operation was first performed and an attempt made to decorticate. This was unsuccessful, however, and Schede's operation was finally done. The patient was not cured. The second case was that of Bonilly, who, in a personal communication to Delorme, stated that he had operated once, but was unable to detach the visceral pleura. No further details of this case are given. These are omitted, as decortication was not done either by visceral pleurectomy or visceral pleurotomy.

§ Those who have witnessed the Sem'a of the Mevlevi or Whirling Dervishes, in which a pirouette, lasting for hours, is performed in a circle all around the khanele or ceremonial hall of the convent, with closed eyes and arms outstretched, accompanied by the cries of the dancers in a chant which, together with the whirling, becomes more and more violent as the dance proceeds, will appreciate the completeness of the recovery in Djemil Pasha's case.

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special interest, however, and will, perhaps, furnish a sufficient reason for what might otherwise be deemed a premature report:

A male, aged nineteen years, was admitted to the Brooklyn Hospital for an empyema of several weeks' standing. Ordinary tube drainage following the removal of about an inch of rib was instituted. At the end of four weeks the cavity was still discharging copiously, with no disposition on the part of the lung to re-expand. At this time an Estlander's operation was performed, four inches each of the sixth and seventh ribs being removed. At the end of another month it was found that, while the anterior portion of the chest-wall had fallen sufficiently below the normal level to partially obliterate the cavity, the posterior portion had not yielded, and a large cavity still remained, with a dense transverse partition consisting of the greatly thickened visceral pleura forming a floor upon which the base of the lung rested, and which prevented it from descending below the level of the third rib. Posteriorly the visceral pleura was firmly attached at a somewhat higher level than anteriorly, which left a pus cavity the size of a man's fist at this point. Decortication of the lung with total pleurectomy was performed on May 30, 1901. The condition of the patient would not permit of the administration of a general anesthetic for the length of time required for so extensive an operation as would probably be required in the case. In addition to a high degree of leucocytosis and a low hemoglobin percentage and red blood-cell count, the patient was suffering from mitral insufficiency and a high grade of cardiac dilatation. It was, therefore, decided to employ spinal cocainization in the case. The patient proved rebellious, however, and refused to remain quiet for the spinal puncture and injection. To remedy this difficulty, after cocaine infiltration of a small area at the site of the intended puncture, a few drops of chloroform (15 drops in all) were administered, and while under its influence the spinal injection was made, one grain of the cocaine sterilized with chloroform and dissolved in forty minims of sterilized water being employed. Immediately following the injection the head of the table was lowered to facilitate the passage of the cerebrospinal fluid mingled with the cocaine solution to the upper portion of the spinal canal. The analgesic effects of the cocaine injection were most pronounced, both as regards the completeness of the analgesia and its distribution. In a few minutes all parts of the body below the level of the clavicle were absolutely insensitive to pain and the operation was begun.

An obliquely placed, elliptical-shaped incision six inches in length, running parallel with the site of the previously resected sixth rib, and enclosing a large fistulous opening and adjacent granulating surface, was made. At the anterior extremity of this incision, a vertical cut two and one-half inches long was made in an upward direction, and from the posterior extremity a similar cut was made in a downward direction. The two three-cornered flaps thus marked out were dissected from the chest-wall, including the entire thickness of the latter to the ribs. The already existing opening in the bony wall of the chest was then enlarged by the resection of five inches of each of the third, fourth, and fifth ribs. The attempt was made to dissect off the visceral layer of the pleura first, but this was found to be so intimately adherent that it was left until the last, and the costal and diaphragmatic pleura removed first. This was accomplished by the aid of the fingers and blunt scissors without great difficulty, when the strongly adherent costal attachments of the visceral pleura having been loosened, the lung expanded sufficiently to bring the parts well within reach and enabled me to readily dissect the visceral layer of the greatly thickened pleura from the lung, after which the entire mass came away. The two three-cornered flaps were then brought into place and sutured with the exception of a small opening left anteriorly through which was led the projecting end of a gauze tampon which was lightly packed between the base of the lung, which by this time nearly filled the entire right chest, and the diaphragm. The operation occupied one hour and a quarter. The analgesia lasted up to the time of the application of the last three sutures, which the patient felt, otherwise the entire operation was absolutely painless. He left the table in excellent condition, considering the magnitude of the operation, with a pulse below 100 and only suffering moderately from shock. Up to the present time the patient has pursued an uneventful progress toward recovery.

In reviewing the literature of the subject it has developed, so far as my researches go at this time, that the term "decortication of the lung" has been applied to all cases in which the attempt has been made to release the lung from its thickened pleura for the purpose of promoting its expansion. A further and most important purpose is that of removal, as completely as possible, of the entire thickened and degenerated pleura with its septically involved structures, in order to insure rapid healing and early obliteration of the empyemic cavity. The first of these indications may be sometimes fulfilled by visceral pleurectomy with more or less detachment of the adherent and thickened pulmonary membrane, and relatively good results may be obtained by this procedure, even in cases in which the lung does not fully expand at first. So far as I am able to gather this was the method followed by Lambotte, Jordan, Sorel, Djemil Pasha and Bonilly. On the other hand, my own case, Delorme's first case, the two cases

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of Reclus, the case of Ferguson, those of Tavel, as well as two subsequent ones of Delorme, were instances of true visceral pleurectomy. That rapid healing and complete recovery may take place with either of these procedures is shown, first, by my own case, in which a prompt operative, as well as functional, result was obtained in four weeks following complete removal of the remains of the pleural membrane; and, second, by Djemil Pasha's case, in which the same prompt result following what, from the description, seems to have been a visceral pleurotomy with simple detachment. It should be stated, however, that in all the cases in which visceral pleurectomy was indubitably performed and recovery took place, both rapid healing and complete re-expansion of the lung was accomplished, while in those instances in which visceral pleurotomy with partial detachment seems to have been done, so far as can be ascertained from the records of the cases, and which survived the operation, four failed of complete expansion and in one the fistulous track remained unhealed. Nevertheless, it cannot be denied that cases will arise, as shown by a study of the cases reported by perfectly competent operators in which difficulties may arise impossible to overcome in attempts to remove entirely all thickened pleura, or even detach the visceral portion. These difficulties are unquestionably increased by the presence of tuberculous deposits in the lung tissue adjacent to or involving the pleural covering. Should these conditions present themselves, it is advisable to discontinue the effort to release the lung.

The indications and contra-indications for the operation, save those which relate to the condition of the chest organs discoverable by physical examination, can scarcely be definitely stated before opening the chest. The thickened pleura may be so intimately adherent as to be impossible of detachment, or it may be detachable and the lung incapable of expansion. Further, the pleura may be peeled off at the visceral reflection, while conditions may be present rendering its complete removal unjustifiable or impossible. Finally, in the most favorable cases, decortication and complete removal may be effected with comparative ease. Upon incising the visceral reflection, if the lips of the incision gape the conditions are favorable for complete detachment of the visceral portion at least, and the effort should be persisted in, even if no expansion of the lung takes place, in the hope that this will take place later on. After detaching the visceral layer, if the hemorrhage has not been excessive and the condition of the patient warrants it, the effort may be made to effect complete removal by attempting to detach the costal reflection, commencing at the site of the resected ribs and following the costal and diaphragmatic portion toward the median line, until the point where the visceral detachment has been affected has been reached.

Ample access to the pleural cavity is to be secured by turning a flap of the soft parts so as to expose two or more of the ribs. The size and shape of this flap will be governed by the position and dimensions of the cavity and the relations of the lung to the thoracic wall. If a fistula exists, at least one, and, if possible, two ribs above this point should be resected. The method of anterior thoractomy through the cartilages advocated by Veslin does not seem to possess any particular advantages. Immediately upon opening the pleural cavity, rapid curettage accompanied by irrigation by means of boric-acid or potassium-permanganate solution should be done. The suggestion of Lambotte to inflate the lung during the operation under general anesthesia is scarcely practicable, although, if this is deemed desirable the patient may be permitted to come out from under the influence of the anesthetic sufficiently to cough. If spinal cocainization is used, as in my second case, the patient may be directed to inflate the lungs at will. Excessive hemorrhage must be kept in check and unnecessary dissection avoided. In incising the visceral pleura, at which point the pleurectomy is generally commenced, care should be exercised not to injure the lung. A small incision to ascertain the thickness of the pleura should first be made, and this subsequently enlarged upon a grooved director. The lung may be recognized by its gray color, and every care should be exercised to avoid penetrating this in the subsequent steps of the decortication. If the lung shows a marked tendency to become herniated at the site of the first incision to an extent to embarrass further manipulation, a second opening may be made and the decortication carried on from this point, instead of enlarging the first. After the incision is once made and the peelings-off process commenced, the fingers of the operator and a pair of blunt scissors are alone needed to complete the decortication. The bleeding is held in check by crowding gauze behind the blunt scissors, or the fingers of the operator, if these are used. By following up the track of the scissors or fingers in this manner surprisingly little blood will be lost. In cases uncomplicated by tuberculous deposits, and particularly where a fistulous track exists passing through a mass of cicatricial tissue and degenerated pleural membrane, the operator may be encouraged to attempt complete removal of the latter. The operation may be completed by light tamponade with gauze and suture of the flap in part. As a part of the after-treatment the patient should be taught to encourage complete expansion of the lung by the use of an apparatus consisting of two large bottles connected together by an inverted U-shaped tube reaching to the bottom of each bottle. Another tube leads into each bottle, through which the pa-

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tient forces air upon the surface of the water with which the bottle is filled, thus driving the water from one bottle to the other, and vice versa.

Results.—So far as the present study has developed, the operation of decortication of the lungs, either by visceral pleurectomy, combined visceral, costal, and diaphragmatic pleurectomy, or visceral pleurotomy with detachment, has been attempted or actually performed forty-one times. Three operative deaths have been reported. It is difficult to estimate the actual results so far as restoration of function is concerned, for the reason that, in reporting cases, operators seem to lay more stress upon the operation than the functional result. A study of thirty cases of decortication by one or another of the methods as above stated, and in which these points have been made sufficiently clear in the reports obtainable to base a fair estimate of results upon, shows the following, as viewed from the standpoint of recovery with complete restoration of function of the lung:

Cured	11
Improved	6
Unimproved	9
Died	3
In doubt (my second case)	1

Viewed from the standpoint of cure of the empyema, the following is shown:

Cured	17
Unimproved	9
Died	3
In doubt	1

If we deduct the 6 cases of advanced tuberculosis from the total number, and consider the subject from the standpoint of cure of the empyema, the following appears:

Cured	17
Unimproved	5
Died	1
In doubt	1

Separating the cases of visceral pleurectomy and visceral pleurotomy with detachment, from those in which the diseased portion of the pleura was removed in toto, the following appears:

Visceral pleurotomy and pleurotomy with detachment of the visceral layer (excepting cases of advanced tuberculosis) *22 cases:*

Empyema cured	16
Empyema not cured	2
Operations abandoned	2
Died	2

Total pleurectomy (excision of all accessible diseased visceral and parietal pleural membrane), *2 cases* (both my own):

Completely cured	1
In doubt	1
Died	0

Again, separating the cases of typical visceral pleurectomy from those in which, so far as can be gathered from the reports, the visceral pleura was simply split or incised and the edges of the incision separated so as to permit expansion of the lung, it is found that 7 recovered, so far as the empyema was concerned; but only 3 had a complete functional result, and one died. If we excluded from this list the fatal case of Reclus, in which the autopsy showed extensive tuberculosis of both lungs, and respecting which Reclus states that the operation should not have been attempted, the showing is much better. On the other hand, taking the cases in which pleurotomy with detachment only of the visceral pleura (no portion of the membrane being removed, so far as could be ascertained), and including the cases of advanced tuberculosis, it would appear that 5 were completely cured, 4 were improved, 11 were unimproved and 2 died. Eliminating the tuberculous cases (those in which well-marked evidences of tuberculous deposits were apparent at the operation, or revealed by the autopsy), as well as those in which, after incising the costal pleura, it was found that the visceral pleura was not sufficiently accessible to warrant an attempt to incise it (2 cases), it is found that 5 were completely cured, 4 were improved, 5 were unimproved, and none died. Of the 4 improved cases all had incomplete but improved expansion of lung, but one of them had a persistent fistula.

It would seem from a study of all the available cases that tuberculous disease, either localized (pulmonary) or more or less generalized in addition to the local affection, was responsible for all the deaths, at least half of the failures to cure the empyema and a majority of the cases in which failure to procure complete restoration of the function of the lung resulted.

As to the number of cases in which complete cure, cure of the empyema, or improvement as regards function of the lung, with or without resulting fistulæ, in tuberculous cases, study of the recorded cases gives but unsatisfactory results. With the tendency at the present time to regard the majority, if not all the cases of non-traumatic empyema as tuberculous in origin, it will be claimed that the large majority of the cases included in this study were of that character. In excluding the cases denominated "tuberculous" from consideration in attempting to arrive at the results of the operation of decortication of the lung, care has been exercised to eliminate only those in which the operation or post-mortem revealed such evidences of the disease as should have been discoverable by careful physical examination, examination of the sputum, etc., and in which the lesions were sufficiently extensive as to have deterred a careful operator from attempting the operation, had he been aware of their existence. While it may be true, as claimed, that the chances of escaping tuberculous infection in the lung subjected to such an environment as that which is present in an empyema are in direct proportion to the promptness and completeness

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of its functional restoration, yet it must be apparent at a glance that the presence of cavities in the lung involved, or even in the other lung, must necessarily lessen the prognosis in direct proportion to the extent of the lesions, until a point is reached in which the case is absolutely hopeless from the surgical standpoint.

Conclusions.—(1) Decortication of the lung is an operation adapted to all cases of old empyema in which extensive and pre-operatively discoverable tuberculous lesions of the lungs are not present, and in which the patient's condition will permit of a major operation. (2) It may be advantageously substituted for Estlander's operation in the majority of instances in which the latter has been considered, up to the present time, as being indicated, since it is more a rational procedure in that it combines the advantages of restoration of function of the lung, so far as this is possible, with closure of the empyemic cavity. (3) It should replace Schede's operation in all cases. (4) The method by extirpation of the diseased portion of the pleural membrane, including the visceral, cortical, and diaphragmatic portions, is the operation of choice. (5) Failing this, visceral pleurectomy should be selected. (6) Pleurotomy, with simple detachment of the visceral layer of the diseased pleural membrane, gives sufficiently good results to warrant the surgeon in resorting to this procedure in cases in which the condition of the patient will not permit of the application of the other and more desirable methods. (7) Whatever operative method is adopted, as complete access to the cavity of the chest as possible should be obtained, and rapid closure of the opening in the chest-wall afterward secured, since the complete re-expansion of the lung must depend largely upon the normal respiratory movements. (8) Pulmonary or respiratory exercises should not be neglected in the after-treatment, since these aid greatly in the restoration of the function of the lung.

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Extradural Spinal Cocainization.—The new method of spinal cocainization proposed by Sicard (*Presse Medicale*, May 11, 1901) has proved its usefulness for medical analgesia, but is inefficient as a measure for surgical anesthesia. It is completely harmless and enables the cocain to be introduced without fail into the extra-dural or epidural space. He calls it "the method of extradural injections by the sacrococcygeal route."

A STUDY OF SOME COMPLICATIONS AND SEQUELÆ OF TYPHOID FEVER.

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In April, 1899, one of the writers of this article published an essay on the "Medical Complications and Sequelæ of Typhoid or Enteric Fever," in which he endeavored to present several important facts, the chief of which, perhaps, is that this disease very frequently occurs in forms so varied from that described in text-books that errors in diagnosis are by no means uncommon. A second point of some importance is that this disease, more than any other, seems to be followed by sequelæ near or remote, which are of very great clinical importance. It is an interesting fact that since April, 1899, the literature on this subject has almost equalled that of the previous twenty years, probably because methods of diagnosis are more accurate, physicians are more keenly active in the search for such possibilities, and, finally, because with the aid of two wars involving the Anglo-Saxon race typhoid fever has become very prevalent in camp and in civil life.

In the essay referred to the fact was insisted upon that the prevalence of this disease was continually decreasing all over the world and the percentage of mortality was also decreasing. With the years 1898, 1899 and 1900 there was a great increase in frequency of cases in the great cities of the United States, but notwithstanding this fact there was not only no increase in mortality but an uninterrupted decrease in its percentage which would seem to prove: (1) That many mild cases, which, with faulty diagnosis would have been overlooked, were reported; (2) that the virulence of the disease is decreasing or that the resistance of the race increasing, and (3) that the methods of treatment are greatly improved. That the decreasing death-rate rests upon the development of an immunity seems very unlikely. Personally, we believe, that the modification of the virulence of the infection by improved sanitary measures which are not favorable to the best development of virulence of the specific bacillus is the chief cause of the changes already named.

Passing from these preliminary remarks we may proceed to a study of various interesting facts in connection with the subject of this paper.

Typhoid Fever in Pregnancy.—As was pointed out in the previous essay the pregnant woman suffering from typhoid fever quite commonly aborts, different statistics varying from 70 to 17 per cent., but in many instances no harm befalls either the mother or child.

Morse[1] assigns as the principal cause of abor-

[*] Medical Complications and Sequelæ of Typhoid or Enteric Fever. Lea Brothers & Co.

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tion: (1) the high temperature; (2) the accumulation of toxins in the maternal blood; (3) the death of the fetus. The most common cause, however, is belived to be the death of the fetus. It has been shown experimentally that the injection of cultures of the typhoid bacillus into pregnant rabbits and guinea-pigs always results in abortion. A case of typhoid fever complicating pregnancy has recently been reported by Chambrelent[2] and is of very considerable interest. In this instance a woman aged 26 years was taken ill with typhoid fever during the last month of her pregnancy and during the acute stages of the disease was normally delivered of a healthy child; her illness pursuing its regular course and resulting in perfect recovery, while the child manifested none of the symptoms of the malady. Still another case is that which has been recently reported by Dr. Terry, at first privately to one of us, Dr. Hare, and more recently in the MEDICAL NEWS. In this instance a woman of 29 was taken ill with typhoid fever during the fourth month of her third pregnancy. The disease ran a moderately severe course, the temperature 104.1° F. Convalescence began during the fourth week, but the disease did not seem to interfere with the course of the pregnancy nor did the pregnancy seem to influence the disease. The patient went to full term and was delivered of twin girls weighing respectively six and seven pounds which were perfectly healthy in every way.

These instances of typhoid fever complicating pregnancy and resulting in recovery are interesting not only because, as we have already pointed out, the percentage of abortion under these circumstances is usually high, but because, side by side with them we find in medical literature reports of other cases in which the results were by no means so favorable. Thus, de Grandmaison[3] has recently published two cases of a septicemic form of typhoid fever occurring in women during the last stages of pregnancy. In the first, a patient of 20 years, aborted after an illness of a few days. Her temperature then became irregular, and for a period of four weeks stayed constantly between 103° and 104° F. The symptoms during this time were almost entirely abdominal, but toward the last the signs of bronchopneumonia, endocarditis, and peritonitis were present. At the autopsy these various conditions were actually found and the bronchopneumonia was proved to be due to the streptococcus and the endocarditis and peritonitis to the typhoid bacillus. In the second case, a woman delivered at full term, developed typhoid fever a week later. She also suffered from bronchopneumonia and died. At the autopsy there was found an abscess in the right sternoclavicular articulation which was proved to be due to the typhoid fever. The characteristic intestinal lesions were present and the specific bacillus was found in the organs generally although there was also a tuberculous pneumonia. In both of these women the eruption and the enlargement of the spleen were absent. The Widal reaction was present in the second case and the typhoid bacillus was demonstrated in the blood of both. De Grandmaison believes that the abortion in the first case was the direct result of the typhoid and that the septicemic condition was secondary, the infection of the blood taking place from a uterine wound, the recently delivered surfaces offering ready entrance to the general circulation, and so giving rise to septicemia. These cases strongly emphasize the recent remarks of Horton-Smith[4] already insisted upon in our earlier essay, that we must cease considering typhoid fever exclusively an intestinal disease but rather regard it as a form of septicemia.

Typhoid Fever in Children.—Another point of interest that we meet with in the study of typhoid fever is the frequency of the disease in children. That the disease is common in children nothwithstanding the fact that its existence has been denied by many clinicians was we think then proved in the essay to which we have referred. But if any further proof was needed to convince the most doubtful of the fact that typhoid infection in early life is by no means uncommon, such proof is forthcoming in the large number of cases which have been reported within the last two years in which not only numbers of children have been studied when suffering from this malady, but in addition it has been found quite frequently affecting new-born infants. An interesting case of this character showing apparent infection from the mother to the fetus rather than infection of the child by ordinary means after birth is recorded by Chambrelent.[5] In this instance the child gave a positive Widal reaction immediately after birth and also presented symptoms of typhoid fever.

George Blumer[6] records a case of a woman who had typhoid fever four and a half months prior to the birth of her child, the child dying when nine days old as the result of hemorrhagic infection due to the typhoid bacillus. There were hemorrhages in the mucous membrane, a hemorrhagic colitis and an enlarged spleen. Still another instance is reported by Bell[121] of a woman contracting typhoid fever in the eighth month of her pregnancy. She was delivered of an apparently healthy child, but it at once developed a temperature. The child was ill for one week; was markedly jaundiced and had rose spots. The Widal reaction was present on three occasions. Recovery took place. Other remarkable instances are those which have been recently reported by Dr. Morse,[7] who in an extensive review of fetal typhoid found twelve cases in which uterine infection had undoubtedly taken place. Of these nine were born dead or died at birth; two lived four days and one five days. None of the living children showed any symptoms of typhoid fever, they simply did not thrive and died. On examination the spleen and liver were found enlarged in some instances and in others hemorrhages had taken place in various organs. The characteristic lesions of the intestine were invariably absent. This is explained by the fact that the infection in all probability took place through

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the placental circulation and not through the mouth. An additional reason is that the intestine is not functionally active at this period of life. Ten cases are cited in which it was evident that intra-uterine infection did not take place, as bacterial examination of the fetus in each instance was negative. Morse believes the high mortality in these cases of intra-uterine infection to be due to the septicemic nature of the disease, and his conclusions are that the bacillus typhosus can pass from the mother to the fetus through the placenta; the fetus usually dies *in utero* or shortly after birth; the fetus may be infected, born alive and die without definite symptoms. It is probably possible for the fetus to be infected *in utero* and be born alive and well. Of this, however, there is no definite proof. The disease undoubtedly is unusual under two years of age, as Morse[8] in a careful review of the question could collect but 18 cases in which the diagnosis was beyond doubt. Nine of these 18 cases were proved by a positive Widal reaction or the finding of typhoid bacilli in the organs. Stowell[9] in a series of 61 cases in children observed the disease in four under two years of age, and Blackader[10] saw it in four cases under two years out of 100. Roemheld in 1898 reported 117 cases in children of whom seven were under 2 years. From 2 up to 15 years the frequency of the disease gradually increases.

The explanation advanced as to the infrequency in the very young is lack of exposure. Stowell states that in nearly every instance the infection was the result of exposure to other children or adults suffering from the disease. Northrup[11] who has seen six cases of undoubted typhoid in children under two years of age states that the diagnosis was easily made on signs and symptoms characteristic of adult typhoid fever. All of his cases were intimately associated with others in the family suffering from the disease and he holds that doubt should be encouraged concerning any diagnosis in an infant under two years not intimately associated with other cases.

Symptoms in Children.—The first manifestation is quite commonly headache which may be quite severe. In 68 of Blackader's 100 cases headache was well-recognized and in 16 was severe. Vertigo may be marked in the beginning. A sudden onset is not infrequent, the child being seized with severe headache and a rapid rise in temperature or by nausea and vomiting. Rarely a convulsion is the first manifestation. Barbier and Herrenschmidt[12] noted vomiting during the prodromal stage in about one-third of 47 cases observed by them. The vomiting does not as a rule continue during the height of the disease although it may return again during convalescence. Sevestra[13] has observed a number of cases which led him to believe that a sudden onset is not very rare. Blackader states that in his experience every case with a sudden onset has been associated with some gastro-intestinal disturbance and attributed to some indiscretion in diet. Epistaxis is present quite as frequently as in adults, occurring in 23 out of Blackader's cases. Among some of the more unusual manifestations at the onset may be mentioned tonsillitis, stomatitis, angina and chills. Anorexia was noted by Blackader in 49 cases. Stowell observed anorexia frequently with gradual failure of the digestive power as the fever increased.

Abdominal pain at the outset is of quite frequent occurrence (33 times in Blackader's series) and is not to be confounded with appendicitis. Richardson[14] has called attention to this point and cites several cases in which operation was urged but in each instance in the course of a few days, typhoid fever became manifest. According to Stowell tympanites is less constant in children than in adults. It was noted as being slightly present in 49 cases by Blackader. Constipation is undoubtedly more common than the typical diarrhea as is shown by a study of these cases. Perforation is extremely rare and is not noted in any of the large series, probably owing to the mildest of the intestinal lesions. French[15] reports a child aged 10 in whom perforation occurred on the fortieth day of her illness. Hemorrhage is also an infrequent accident; in four of Blackader's cases the stools were blood tinged but there was no distinct hemorrhage. Stowell has seen hemorrhage but twice among 61 cases. A palpable spleen was present in 70 per cent. of Blackader's cases and in 69 per cent. of the childent under two years reported by Morse. Stowell states that in the majority of his cases the spleen was enlarged and tender. Enlargement of the liver, though not so marked, is quite often noted. Albuminuria is not unusual and is thought to increase in proportion to the fever. It was not of frequent occurrence in Stowell's series and in his case the specific gravity averaged about 1.020 showing there was very little concentration. Blackader noted albumin in the urine in but five cases presenting an exanthematic eruption, and Weill and Lesieur[16] found albumin in 25 cases.

Temperature in Children.—The course of the fever in children differs essentially from that of adults in that it does not follow the typical curve found in the adult. The rise in temperature may be sudden and abrupt. Usually, however, it rises gradually for the first few days, and then becomes remittent in character, a peculiarity which has given to the disease the name "infantile remittent fever." During the third week the temperature declines rapidly. Stowell[19] has appended several temperature charts to his article showing that the temperature may be extremely irregular in type. Blackader[10] observed in his cases that during convalescence a subnormal temperature lasting for days is a more frequent occurrence than among adults. Janeway[17] states that when typhoid fever breaks out in institutions, especially among children, there are instances in which the fever subsides in from 3 to 10 days. He has designated these cases as typhoid febricula. He has also observed that there is a class of cases, with some gastro-intestinal disturbance and fever without these

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manifestations, in whom the fever declines in from one to three days. A short time afterwards regular typhoid fever has developed.

Relapses occur in varying percentages. Blackader noted it in 15 cases while Stowell had but three cases. The degree of infection seems to have no bearing on the frequency with which relapses occur.

Eruption in Children.—The character and site of the eruption does not differ from that of the adult and appears about the same period of the disease. The eruption may first be seen as early as the fourth or as late as the second week, but is usually coincident with the height of the fever. During the third week it fades. Stowell, however, observed typical spots, in a boy four years old, ten days after he was well clinically. Morse found that among 15 cases under two years of age a roseola was present in 13. One would infer from Blackader's statistics that the eruption is not unsually absent as he found it in but 55 out of 100 cases. At times the eruption may be very profuse and occasionally there is an erythematous eruption during the first week. Weill and Lesieur have described an exanthematic form occurring in children. This form of eruption is characterized by large numbers of rose spots, appearing early in the disease and invading the entire cutaneous surface. The spots may be ecchymotic or papular in character. They believe there is some connection between this form of eruption and the mildness or absence of the intestinal symptoms.

While the eruption appears to have some influence on the abdominal symptoms the relationship does not hold with the nervous symptoms which may be quite severe. Among 280 cases they observed 73 with an intense eruption; of these but 15 had noteworthy intestinal symptoms.

Purpura is occasionally seen in children. Pinard[18] reports a boy aged 13 who had hemorrhages from the nose, gums, bowel, and kidneys, and eventually recovered.

Circulatory and Nervous Symptoms.—The effects of the toxins on the circulatory system consist in a gradual weakening of the first sound with the frequent appearance of hemic murmurs. The blood, just as in adults, shows a steadily progressive anemia and diminution of the white cells. M. Guinon[122] has reported the case of a girl, aged fifteen years, who during the first few days of her attack of typhoid fever developed tachycardia and an aggravation of the heart sounds with a dry pericarditis. The pericarditis, for a few days, masked an endocarditis. Pain was present and was increased by pressure. A small and rapid pulse indicated involvement of the myocardium also.

Nervous symptoms are not constant nor do they seem to appear with greater frequency than in the adult, with the exception of apathy which, according to Stowell, is common. Blackader observed nocturnal delirium in 18 cases; drowsiness during the first week in 12; restlessness during second and third week in 15; and in 4 semistupor. Nervous symptoms at the onset often lead to great confusion, especially those cases simulating meningitis. In these the onset is often sudden, with intense headache, retraction of the head, vomiting and delirium. A positive diagnosis is often impossible for a few days when as a rule the condition becomes manifest. The Widal reaction is of little value at this time as it is not commonly found in the early days.

From a review of the literature it is apparent that typhoid fever in children, except in a few details, does not differ essentially from adult typhoid and that the diagnosis in children usually rests on those signs and symptoms on which we place the most reliance in the adult. In children, the course is shorter, varying from 12 to 21 days, and may run even a shorter course. The temperature is either irregular or more often conforms to its own especial type. Abdominal symptoms are not so marked as in the adult and perforation and hemorrhage are extremely unusual. The mortality is greatly below that found in adults except in children under two years of age. In the very young the mortality is very high; thus Morse found 8 deaths out of 17 cases or 47 per cent.

Complications and sequelæ do not seem to be very frequent among children judging from the large groups of cases reported. Stowell mentions varicella, parotitis, bronchitis, pneumonia and hemorrhage. Blackader noted otitis media in four cases, furunculosis in two cases and periostitis in one case. Barbier and Herrenschmidt noted vomiting, febricula of from one to four days' duration and numerous instances of subcutaneous abscesses. Five of their cases developed dysentery as a result of admitting a case of this disease into the ward.

Ryska[19] mentions the only case of cholecystitis occurring among children. The patient was a boy aged thirteen years.

Aphasia has been noted in children, often arising without any ascertainable cause. Samuels[20] reports a child aged 18 months who was aphasic during the last week of its illness. The child made a good recovery. There was a most extreme degree of anemia in this case associated with a high leucocytosis. Da Costa[21] reported a girl who suddenly became aphasic on the fourteenth day. He believed it to be due to toxemia acting on the speech centers or a localized hysteria. Silvio[22] observed aphasia in a child of seven years, the condition persisting throughout the course of the attack. Although there was profound adynamia Silvio believes the aphasia was the result of toxic action on the speech centers.

Of the rarer complications may be mentioned cancrum oris[23] in a child of four; laryngeal stenosis[24] in a boy of nine; typhoidal meningitis in a child of four[25]; and chorea developing in a child of three on the 70th day. An extremely unusual combination is reported by Bell[121]. In a family in which typhoid fever and scarlet fever coexisted one child had scarlet fever, but escaped typhoid fever; another had typhoid fever and

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escaped the scarlet fever; a third had typhoid fever primarily and was taken with scarlet fever on the 20th day; a fourth had scarlet fever primarily with typhoidal infection on the 10th day.

Typhoid Fever in Advanced Years.—It has been known by all physicians that typhoid fever in advanced life is an exceedingly dangerous malady. Fatal as it is between 20 and 30, it is more and more fatal as life progresses, while, on the other hand, it is equally well known that typhoid infection in advanced years is comparatively uncommon. It is interesting to note that very few cases in individuals over forty years have been reported among the enormous number collected during the past two years, although from a study of literature it would seem that the statements as to its relative infrequency are too sweeping. Osler in *Studies No. III.* tabulates 52 cases out of 829 occurring beyond the fortieth year; 12 being over 50 years of age. Among those which have been reported we find an instance seen by Dr. Skinner[26] in which a woman of 52 was taken with a sudden rise in temperature and for two days had nausea and vomiting. The abdominal symptoms became especially well marked, the eruption was absent, but the Widal reaction was positive. The bowels were obstinately constipated throughout the disease. The fever ran a prolonged course, lasting for ten weeks, and during convalescence right ulnar neuritis developed which was severe in character and followed by atrophy. As this cleared up, the left ulnar nerve and the right peroneal nerve became similarly affected with slight atrophy of the muscles supplied by the latter.

As illustrating how frequently patients well along in years suffer from serious complications during the course of typhoid fever we may note not only this case of Skinner's but also one which has been recorded by C. G. Roth.[27] His patient, a woman of 52 years of age, had a mild infection running a course of about three weeks. During convalescence she was seized with a chill and bilateral pleurisy; and a few days later had another chill followed by pain in the upper lobe of the right lung with bloody expectoration. After this there were intervals of febrile movement preceded by slight chills. But pleural effusion did not take place into either cavity, and recovery ultimately occurred. Gabbi[28] reports two very interesting and unusual complications in a patient 65 years of age who developed paralysis of the ocular motor nerve and polyuria as the result of typhoid infection and Lugard[29] records an instance of a woman of 52 years of age who died on the twenty-ninth day of the disease suffering from a typhoid myocarditis, a lesion which is by no means uncommon in severe cases at this period of life. A case reported by Etienne[30] had a second attack at 44 and a third at 57 with recovery, and a woman, reported by Hamilton,[31] had typhoid fever when 57; the attack being prolonged by two relapses and the appearance of cholecystitis on the seventy-second day.

Mildness of Onset.—Symptoms of typhoid fever at the onset are often vague and indefinite especially in hospital cases where the patients or their friends are as a rule unable to give an intelligent history. In some instances the typhoid infection is masked by other conditions, and several days may elapse before the true condition declares itself. Ambulant cases may escape attention entirely or a fatal hemorrhage or perforation may be the first indication of the disease. Cases are not lacking in which this mildness, or presence of other symptoms than those of typhoid fever, has masked the true disease. Thus, W. W. Ford[32] reports a man whose illness began two months prior to his admission into the hospital. During this time he suffered with weakness, anorexia, malaise, cephalalgia, vertigo, numbness, severe chills and night-sweats, cough and articular rheumatism. On admission he was jaundiced and had a thrombosis of the right popliteal vein. During the three weeks he was in the hospital prior to his death he had recurring chills at which time he always had a pronounced leucocytosis (18,000-30,000). Jaundice steadily became more intense until death occurred. At autopsy the healed lesions of typhoid fever were found in the intestines. The final diagnosis in this case was typhoid fever followed by a general septicemic infection.

R. T. Sutherland[33] had a man under his charge for acute alcoholism who showed every evidence of the disease after the former condition had disappeared. T. Anderson[34] reports a fireman who had been ill with a cough and pain in his chest for three weeks but had been walking about until three days prior to his admission to the hospital. Four days after his admission he had hemorrhage and an attack of vomiting. Ten days later he died. At autopsy numerous ulcers of the gall bladder were found, one of which had perforated, although during life there were no symptoms of peritonitis noted. Still another case of extreme mildness is reported by Posselt[35] of a man suffering from Hodgkin's disease in whom the diagnosis of typhoid was not made until autopsy.

Gabbi[36] reports a woman who in the twelfth day of her puerperium had a slight febrile reaction, which at first looked as though a purgative would remove it. Three days later, however, the patient began to complain of malaise and headache and presented a coated tongue and a rise in temperature and so passed into a well defined attack of the disease. Janeway[17] also speaks of six instances in which the diagnosis rested between typhoid fever and puerperal septicemia. Dr. Potaire,[37] of Paris, has recently called attention to the comparative frequency with which persons suffering from influenza develop typhoid. About the time convalescence seems established there is a sudden rise in temperature and severe headache with the usual typhoid symptoms follow. He contends that the condition is originally influenza from the late appearance of the rose spots. David Harris[38] reports a soldier who was seized with a chill and rapid rise in temperature, and an exam-

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ination revealed a croupous pneumonia at the left base. Two days later his throat was examined, owing to a complaint of soreness and a well-marked diphtheritic membrane was discovered. Seven days from the onset of the diphtheria rose-colored spots, enlarged spleen and diarrhea led to a diagnosis of typhoid fever. The man made a good recovery. The author believes that the typhoid was present from the beginning but was masked.

Abrupt and Severe Onset.—In children abrupt onset is much more frequent than in adults, and vertigo, vomiting and chills are not unusual manifestations in this class of cases.

T. K. Muro and C. Workman[39] report the case of a man aged 18 who was suddenly seized with vertigo, headache and pain in the abdomen. The following day he had a pleuritic pain in the left side. In the beginning of his illness the diagnosis was not clear and the stools were not characteristic. Towards the end of his illness he had a profuse intestinal hemorrhage and a good deal of abdominal pain. At autopsy marked thrombosis of the mesenteric veins was found. Dubois-Havenith[40] mentions a man who was admitted to the hospital with a scarlatinal erythema. He had been ill for four days, the illness beginning with sore throat, general malaise and fever. He had all of the characteristic signs of typhoid fever, and at the end of the third week he developed a scarlatina-form rash which gradually faded and the skin underwent desquamation.

Those cases in which the onset simulates meningitis with intense headache, delirium and retraction of the head are scarcely distinguishable from the condition they ape. The Widal reaction is not reliable as it is not usually found so early. Trosier describes a case, the onset being marked by violent headache which persisted and later on developed symptoms of meningitis with ultimate recovery.

The principal variation of the fever at onset is a sudden rather than a gradual rise. Cases in which there is a sudden rise are as a rule associated with a chill or chilly sensation, and occur for the most part in children. Occasionally the onset is masked by another condition. Harris reports a soldier who had a chill and sudden rise in temperature in the course of a croupous pneumonia and diphtheria; as these conditions cleared up typhoid fever became evident showing that it had probably been present since the beginning of the case. Potaire states that cases immediately following influenza are quite apt to begin with a sudden rise in temperature. G. Boody[41] reports a case of inverted temperature occurring in an epidemic in the Iowa State Hospital for Insane. The case was typical of typhoid fever except for the temperature which ran a course below normal, and the pulse and respiration were also below the normal.

Chills.—There is probably no one symptom of typhoid fever that has more frequently led to errors in diagnosis than chills. In the vast majority of cases in which they have appeared the diagnosis of malarial infection has been made, particularly in our own army during the past war. They are often seen not only in the early onset but later in the disease and at the onset of relapse. Osler in *Studies No. III.* noted chilly sensations in 213 cases; in 200 cases there was a marked chill, 93 of these cases having more than one chill. We have collected the following cases since the essay was published.

F. Widal[42] reports six cases of young adults, in five of whom the first manifestation was a chill or chilly sensation and severe headache; the sixth was suddenly seized with nausea and vomiting. In the discussion on the paper three other cases of adults were mentioned in which chills and severe headache or vertigo ushered in the disease.

Blackader mentions chills as the initial symptoms in 12 out of 100 cases of typhoid fever in children and other cases are reported by C. E. Edson[43] and by H. C. Thompson.[44] A chill occuring at any time beyond the onset of the disease is usually significant, pointing to some complication, more or less severe. Osler has previously pointed out this in his *Studies No. II.*, and more recently in *Studies No. III.* has added still more instances.

The septicemic type of typhoid fever is often masked by marked rigors. Instances of this are reported by Ford[45] and Gillies.[46] In some instances as in a case reported by Taylor,[47] chills may occur at intervals during the attack without any definite cause.

In connection with the subject of chills the coincident existence of malaria and typhoid may be considered. As before stated the occurrence of chills has led to an enormous number of mistakes in calling typhoid fever malaria fever. Lyon has made a detailed study of the co-existence of the two diseases. In addition to a case of his own he found 29 other cases in the literature in which the co-existence of the malarial parasite and strong evidence, either clinical, pathological or bacteriological, existed of typhoid fever. Such cases are as a rule more severe than simple ordinary typhoid fever, and the mortality is high, 11 out of 30 dying. Complications are also prone to arise.

Chills may occur at the onset or at intervals throughout the attack. In some instances the malarial paroxysms disappeared during the active stage of the typhoid fever, to reappear again during convalescence. Lyon condemns the term typho-malaria and states that the vast majority of cases in the Southern States in which the combination is thought to exist are in reality either simple typhoid or in some instances irregular continued malarial fever. Thayer who has studied the malarial fevers and typhoid fever most thoroughly in and around Baltimore has seen but two cases in which the combination existed.

Abortive Type.—In the presence of extensive epidemics typhoid fever sometimes, especially toward the end, of the epidemic, runs a very short course, amounting to an abortive form. Children in the great majority of in-

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stances, enter their convalescence between the tenth and eighteenth day, and cases are reported in which the seventh day marked the decline of the fever in such patients. It must not be understood that the abortive form begins with extreme mildness; quite the contrary. The disease may begin with great severity and in the course of a week or ten days disappear. In Philadelphia during the winter of 1898-99 there was quite an extensive epidemic of enteric fever following the bringing of large numbers of infected soldiers to the city. During this epidemic there was quite a number of cases running a course which were practically abortive in type. (See Hare's Essay.) E. G. Janeway[17] states that when typhoid breaks out in institutions, especially among children, they are cases in which fever is the principal symptom and that it subsides in from three to ten days. He applies the name of "typhoid febricula" to these cases. Paul Remlinger[48] reports twelve cases of the disease with a rubeoliform or scarlatinaform eruption, four of which were of the abortive type.

Alimentary Symptoms at Onset.—Diarrhea, formerly so prevalent in typhoid fever from beginning to end, is present in not more than half of the cases at the present time. In a report of 250 cases of typhoid fever occurring in Ladysmith, South Africa, David Melville[123] states that in but 5 of them was there diarrhea. Constipation was constant and he states that it is a feature of the disease as met with in South Africa. Constipation at the onset is sometimes replaced by diarrhea if purgatives are administered. Nausea and vomiting are present in quite a large number of cases especially those with a rather rapid or abrupt onset. Vomiting was an initial symptom in 209 of Osler's cases. Anorexia is so generally present that it hardly needs mention, while jaundice as a manifestation of typhoidal cholithiasis is sometimes seen late in the disease or during convalescence. Its presence at the onset is unusual. Ogilvie[49] has reported two cases in which jaundice was present, in one case when first seen and in another it appeared on the fourth day of the disease. In a third case jaundice preceded the typhoid fever and co-existed with it. The last case was in all probability catarrhal in origin. The other cases might have been catarrhal or may have been due to typhoidal infection of the gall bladder. Gall bladder involvement, however, generally first manifests itself during the third or fourth week or during convalescence.

An initial symptom of more importance than any of these mentioned is abdominal pain. The pain may be general or may be located in the right iliac fossa, and the latter cases cause the most difficulty in making a diagnosis. General abdominal pain was noted by Osler in *Studies No. III.* in 227 cases and pain limited to the right iliac fossa in six. In studying 500 cases with reference to pain, McCrae[124] found that in 166 cases the pain was present at the onset. The more severe the pain, the greater is the danger of confounding the condition with appendicitis, peritonitis or enteritis. He cites several instances in which these mistakes were made. When pain is limited to the right iliac fossa, the diagnosis of appendicitis is not infrequently made. Richardson[14] has called attention to this danger and cites several cases in which operation was urged but fortunately postponed. W. T. Bull[125] has reported a case in which this mistake was actually made and G. L. Peabody in the discussion stated that he has seen two such instances. H. A. Hare[51] and Janeway[17] have also drawn attention to this possibility.

Respiratory Symptoms at Onset.—In the previous essay the statement was made that bronchitis was unusual at the onset; Gillies[46] however found it present in 33.4 per cent. of 215 cases reported. Edson[52] found acute bronchitis present at the onset in 54 per cent. of his cases, and believes that it is a symptom of extreme importance in the early stages. He found in many instances that the ordinary evidences of bronchitis were absent but that examination of the lungs showed numerous dry râles. In view of the fact that it is now well known that the Eberth bacillus has a tendency to localize in certain parts, as the gall-bladder and urinary bladder, it seems reasonable to suppose that this localization may take place in the lung setting up a consolidation. Localization in the lung with a consolidation presenting all the signs of a croupous pneumonia has been termed by the French "pneumo-typhoid." One of the writers (Hare) in a previous essay accepted this view, and cited several cases which seeemed to bear out the truth of the statement. Osler has also accepted this view and in his *Studies No. III.* gives two cases, one in which typhoid fever was unsuspected till autopsy, and in the second, croupous pneumonia was supposed to be the true diagnosis for the first eleven days. No less an authority than Horton-Smith[53] takes an entirely opposite view. He believes the term to be a bad one and if retained should be understood to mean a pneumonia complicating typhoid fever, and in no sense typhoidal in origin. He states that the pneumococcus can always be demonstrated early in the consolidation but it is not found in the late stage. Furthermore where the pneumococcus and bacillus typhosus coexist, the former must be looked upon as responsible.

Von Stühlern[54] in three cases of pneumonia complicating typhoid fever was able to demonstrate this presence of typhoid bacilli, and the *micrococcus lanceolatus* in the sputum. He calls attention to the fact that in such pneumonias the sputum was decidedly hemorrhagic, an observation also made by Curschmann. Harris[55] mentions a case in which a soldier was attacked by pneumonia, later by diphtheria, and that the typhoid fever became evident as the two conditions cleared up. He believes the typhoid fever was present from the onset. Pneumonia as a complication occurred in 15 out of 829 cases during the past eleven years at the Johns Hopkins Hospital.

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Gillies[56] observed pneumonia in 2 out of 129. In ascertaining the cause of death among 315 cases Remlinger[57] found eight cases of broncho-pneumonia and four of croupous pneumonia. Hypostatic congestion at the bases of the lungs occurring during the third or fourth weeks is not unusual but is now properly considered as a result of cardiac deficiency rather than a disorder of the lungs. (For Typhoid Pleurisy see Chapter on Respiratory Conditions in Well-Developed Stage.)

Nervous System at Onset.—Headache is by far the most frequent of the nervous manifestations at the onset and is recorded in most of the reported cases, whether associated with other nervous phenomena or not. In Osler's *Studies No. III.* headache was present in 595 out of 829 cases. In quite a large proportion of children the headache is replaced by vertigo. Actual meningitis while comparatively rare at the onset or indeed at any time during the course of typhoid is often simulated especially in the beginning. A limitation should therefore be made in the use of the term meningitic typhoid, applying it only to those cases which simulate true meningitis. Meningitic typhoid often begins with severe headache, especially in onset, early delirium and retraction of the head. Delirium or stiffness of the neck occurred in 61 of Osler's cases. In the course of a week these symptoms entirely pass off. The confusion is intensified because in the early stages the Widal reaction is commonly absent. A true meningitis will usually show paralysis of one of the special nerves, rigidity of the extremities or convulsive movements.

Among the more rare nervous manifestations at the onset are occipital neuralgia, fleeting pains in the wrists and spine, early delirium and tremor of the hands and aphasia. The aphasia in a case reported by Silvio existed from the beginning and lasted throughout the entire course of the disease.

C. P. Emerson[47] reports a case of an oculomotor paresis occurring on the eighth day. As a rule disturbances of the nerves governing the eye occur much later. In the case reported the paresis was thought to be due to a localized patch of meningitis. In the opinion of E. G. Janeway[17] the mental state is sometimes rapidly altered, probably owing to idiosyncrasies. Conditions simulating mania or melancholia appear and he has seen cases in the early stages of typhoid fever in which the diagnosis of insanity was made. These psychoses are distinct from the mental disturbances which appear later.

Renal Lesions in Onset.—Renal lesions at the onset are not usually met with. Osler in *Studies No. III.* reports two cases with albumin and hyaline and granular casts during the first week of the disease.

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(To be continued.)

"THE PORRO-CÆSARIAN OPERATION" WITH REPORT OF TWO SUCCESSFUL CASES.[1]

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JAMES BLUNDELL of London, in his Principles and Practice of Obstetrics, 1834, conceived and recommended the employment, while Storer of Boston in 1868 performed the operation which eight years later, in 1876, was first successfully accomplished by Porro of Pavia and has since been known by the name of the later surgeon. Compared with the older Cæsarian method with its open incision and faulty technic the Porro operation with fixation of the stump in the lower angle of the wound proved to be a great step in advance, becoming, because of its lesser mortality and simplicity of recovery, the recognized treatment of Cæsarian cases. Following closely upon this improvement, in 1882, came the recommendation of Sänger of Leipsic that the uterine wound be completely closed.

The practical application of this proposition

[1] Read before the Medical Society of the State of New York.

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(first by Leopold of Dresden) resulted in a still further reduction of mother mortality and the very general adoption of this more conservative method, which with the Porro operation and symphysiotomy have revolutionized the attitude of obstetric surgeons to the operation of craniotomy on the living child until now it is, or should be, an operation of little more than historical interest.

In view of the practically common mortality in well done Sänger and Porro-Cæsarian operations we should I believe reach a definite opinion on two propositions dealing with these operations, viz., (1) that tubal excision without hysterectomy for the purpose of sterilization and interference with future pregnancy is unwarrantable. The first should presume the second step as the organ left is rendered functionless and can only become a source of possible trouble or evil; (2) that we should have a well-defined plan of ovarian conservatism and that in all cases possible, an ovary or its fraction should be left *in situ* since recent study so conclusively shows the value of its secretion in general nutrition, and its preventive influence in the nervous disturbance incident to the early and artificial menopause.

The following indications for the Porro operation as formulated by Howard A. Kelly of Baltimore are explicit and difficult of improvement: (1) Where there is good reason to anticipate sepsis, where, for example, the patient is exhausted from protracted labor, and where manual or instrumental efforts at delivery have been made repeatedly or without due antiseptic precautions; (2) where there is cancer of the cervix uteri; (3) where the uterus contains myomatous tumors which block the pelvis or which cannot be safely removed by myomectomy; (4) where there is an extensive atresia of the vagina; (5) where there are bilateral ovarian tumors and no sound part of an ovary can be found and left; (6) when hemorrhage from the placental site is uncontrollable.

The question of the relative rights of mother and child and the responsibility of the surgeon to these in the various forms of maternal dystocia is an intricate one, which, owing to sentimental considerations, must at times be difficult of decision, as between the so-called Sänger and Porro-Cæsarian operations or the former modified by excision of the tubes or ovaries for the purpose of sterilizing the subject. Some authorities maintain that it should be elective with the mother; others oppose this view diametrically, while yet others have various shades of opinion between these extremes. We believe that circumstances should largely govern in this question, and are of the opinion that if the uterus and adnexa are healthy, although dystocia be absolute, we should urge the conservative operation, while doubting our inclination to deny the appeal of the patient to be protected from future hazardous pregnancies, notwithstanding the arguments that she is mistress of her sexual relations and conceptions, or that she may have had a successful Cæsarian operation before.

In an estimate of the comparative mortalities there seems to have been an increasingly favorable showing in the mother mortality for the Porro operation during the last decade. The statistics of Démelin for the past five years giving a mortality for the Porro operation of about 10 per cent., which is about ⅓ less than that in the Sänger-Cæsarian operation. The fetal mortality for the Porro operation, on the other hand, is greatly in excess of that of the Sänger operation, a fact presumably due (as illustrated by Leopold's cases) to the death of the child before undertaking operation, the condition requiring the Porro operation also being reasonable proof of this proposition. The statistics of selected operators, as for example, Sänger, Leopold, Braun, and Zweifel, showing a mortality of about 8 per cent. cannot, of course, be accepted as criteria for general operators. Neither of the two cases whose histories are appended were in the strict sense of the word Porro operations, but modifications of it. Cases No. I. and II. having been done after the methods advocated by Freund and Baer, respectively.

Case I.—Mrs. E. K., American, age forty-three, married at twenty-three years, has borne five living children, the elder being sixteen, the younger three years of age. Since the first labor the patient has had more or less vaginal discharge with evidences of uterine malnutrition, presumably due to cervical laceration; with the last birth there was some antepartum bleeding with postpartum flooding, the attending obstetrician not suspecting the presence of malignant disease. Prior to and during the present pregnancy, which is supposed to have taken place about December 20, 1897, the patient had an increase of the vaginal discharge, which at times was offensive. Since the fifth month of pregnancy there had been hemorrhages of increasing frequency and severity until I was asked to see her September 15th.

The patient was emaciated and exsanguinated; digital examination revealed a soft mass, filling the vagina, bleeding so actively with manipulation that further examination was deferred to a more favorable occasion. The following day the patient was admitted to Faxton Hospital, Utica, N. Y., where further exploration (confirmed by subsequent microscopical examination) showed the growth to be a carcinoma, probably springing from the cervical canal and invading the vaginal wall posteriorly. The mass was carefully packed about with strips of guaze into the mesh of which powdered ferric-alum had been dusted. This procedure was continued from day to day as it was believed to be safer than immediate excision by cautery or otherwise, in the hope that hemorrhage might be controlled, enabling the patient to recover some of her wasted vitality, and at once prolong the period of gestation, thus improving the dubious prospects for both mother and child

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in any operative procedure which might be deemed advisable later on. By this means the patient was carried along until about eight and one-half months of gestation, she meantime having been fed to the point of toleration, improving markedly in nutrition; at this time she had some hemorrhage and it was thought best to remove the mass with the galvanocautery which was done without difficulty, it having desiccated and hardened materially since first coming under observation. Hemorrhage from the cervical canal continued.

It being apparent that delivery *per vias naturales* must in all probability result fatally to the mother from shock and hemorrhage, from unavoidable injury to the degenerated friable cervix and lower segment of the uterus, beside offering the child a lessened propect of life as compared with a Cæsarian hysterectomy, this procedure was selected and done. An incision extending from the umbilicus to the pubes was made, the edges of the abdominal wall protected with gauze and the exposed uterus packed off with gauze rolls; both ligaments (the right exclusive of the ovary) were grasped with a long Doyen forceps at the same time pushing the point of the forcep into the cervix for the purpose of controlling the circulation in the uterine arteries; a longitudinal incision in the uterus, avoiding the site of placental implantation, was made through which the delivery of the child (a living female of eight pounds weight) was effected without much hemorrhage. The ligated cord was dropped back into the uterine cavity, the uterus, eventrated, was severed from its attachment to the cervix and ligaments, which were tied and cut short after the method of Clark; the cervix was carefully dissected out, it being necessary to excise one-third of the posterior vaginal wall down to the rectal wall in order to get well outside of all infected tissue. There was apparently no involvement of the bladder or anterior vaginal wall in the diseased process. The cut edges of the vagina and peritoneum were approximated, except for a small opening through which a bit of gauze was brought out into the vagina for drainage, as the field had been decidedly septic. The abdominal wound was closed in the usual way. The patient's reaction not being satisfactory, she was given a pint of normal salt solution in the cephalic vein, after which she made an uneventful recovery, the operative field, except that in the track of the gauze, healing primarily. One year after operation we were unable to make out any iliac or other infected glands or tissues, the patient appearing and declaring herself perfectly well. Six months later, however, the disease reappeared in the trigone of the bladder, rapidly proving fatal as a result of obstructive nephritis.

Case II.—Mrs. S. W., age twenty-five years, Austrian, married. Primipara, admitted to Faxton Hospital having been in labor several days, uterine inertia supervening. Upon examination a sloughing funis presented, implying, of course, a dead child and presumably septic uterus. The patient was found to have a flattened rachitic pelvis with a conjugate diameter of two and one-half inches. Preparations for a Porro-Cæsarian operation were made, this course being decided upon in view of the septic parturient canal; the consideration of a craniotomy being excluded upon the same grounds. With the patient in the modified Trendelenburg position, an abdominal incision seven and one-half inches in length was made down to the uterus. As in the previous case, the edges of the incision were protected with gauze and the uterus packed off with gauze rolls. Long Doyen forceps were pushed well into the substance of the cervix on either side for the purpose of catching the uterine arteries and clamped firmly down on the ligaments, as before, excluding the ovary on the right side, with the intention of preserving in a measure, at least, the sexual function and the influence of the ovarian secretion on general nutrition of which now there remains little contention; avoiding the area of placental implantation the uterus was now incised longitudinally without much hemorrhage and the dead child delivered, not without some effort, because of impaction in the narrowed pelvis. The uterus was now rapidly cut away, leaving the lower segment of the cervix; the vessels were closed with catgut, the oozing of the cervical stump controlled after the method of Baer by approximating its edges and covering the stump and bare ends of the ligaments by approximating the peritoneal edges, leaving the peritoneum clean and continuous throughout; after wiping out the cavity with normal salt solution the abdominal wall was closed in the usual way, the patient making an uninterrupted and perfect recovery.

Important questions in a consideration of the technic of the Porro operation are (1) control of hemorrhage, (2) the disposition of the stump or (3) its complete extirpation. The method of circulatory control as practised in the above cases was certainly satisfactory and we believe superior, in that it is more simple and exact than manual compressions or the elastic ligature, either of which methods might interfere with smoothness of technic or, on occasion, become positively obstructive, entailing delay and unnecessary shock. Employment of the method recommended also makes more practicable the excision of the uterus with the placenta intact, a consideration of manifest importance in septic uteri, as detachment and delivery of the placenta adds one step more to a serious operation and necessarily endangers an extension of infection. As to the disposition of the cervical stump, its fixation in the lower angle of the abdominal wound, as originally done by Porro, is an almost obsolete practice and justly so as nothing is added to the safety of the operation by so doing and convalescence is delayed. Excision of the cervix after the manner of Freund, except to meet some special indication, would seem undesirable as the integrity of the vaginal vault is impaired, while the additional time consumed and hemorrhage risked from the vaginal blood supply in its accomplishment may

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prove a most disadvantageous factor. Admitting the desirability of treating the stump retroperitoneally, inversion, invagination, or approximation of its edges, becomes perhaps a question of minor importance. The later or Baer method is, however, more generally preferred as this disposition of it is done quickly and exactly and leaves a natural vaginal vault.

THE TREATMENT OF SCARLATINAL NEPHRITIS.

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A CRITICISM of fairly general application concerning the management of scarlet fever rests in an apparent lack of appreciation of the dangers of kidney complication. If every case of scarlet fever, whether mild or severe, were treated as though nephritis were expected, there would be comparatively few cases.

A child with scarlet fever is not to be considered well when the rash fades, when the temperature falls and the throat takes on a normal appearance. He is not to be looked upon as having recovered until five or six weeks have been safely passed. During the first three weeks of this period the patient must be kept in bed, no matter how well he may feel or how mild the attack may have been. It is extremely difficult to keep an active child who feels perfectly well in bed free from exposure, consequently the temperature of the room should be allowed but slight variation. It should range between 68° and 72° F.

When nephritis develops, whether unavoidable or due to neglect, we are very prone to share the apprehension of the family and overtreat the case. Diuretic drugs and combinations of them, the latter suggesting an intimate acquaintance with the "Latest Literature" columns of some of our medical journals, are given with no little harm in some instances.

Much has been written concerning the treatment of scarlatinal nephritis in the young, evidently from the adult standpoint and not based upon bedside experience with children. The child who has passed through even a moderately severe attack of scarlet fever recovers with weakened heart-muscle, unstable nervous system and assimilative powers considerably reduced. If we are to subject such a patient to repeated purgings, prolonged sweatings and promiscuous drug giving, we will do more harm than the nephritis—a disease which has a tendency to get well of itself. These cases should not be approached with fear and force, but with gentleness and therapeutic moderation. Digitalis is too frequently prescribed as a routine measure. When the pulse is full, rapid and of high tension, as is usually the case, the kidneys are already engorged with blood and digitalis will only do harm. Pilocarpine should only be given in extreme cases, after all other means have failed, when uremia is established or when the patient is in an uremic convulsion—even then, its use is only safe in experienced hands.

Irritant cathartics interfere with digestion and assimilation and reduce the strength of the patient. The same is the case with the diuretic potash salts and other so-called diuretic drugs; as diuretics but little reliance can be placed upon them. In those cases in which prompt action is demanded, they fail us.

What then is to be the management of a case of exudative glomerular nephritis of average severity in a child with such symptoms as puffiness of the eyelids, edema of the feet and ankles, scanty, high-colored urine, fever, headache and perhaps nausea, symptoms which appear ordinarily in three to five weeks after the disappearance of the rash.

The first step refers to the diet. Milk, broths, and thin gruels only should be given. The plain milk diet is not necessary or perhaps desirable. When given exclusively the patient soon tires of it and it will not be well borne by the stomach; as milk is to be our main reliance for some time this must not be allowed. It may be given plain with lime-water or mixed with thin gruel; it may be given peptonized or in the form of junket. I usually order two or three feedings a day of thin gruel well salted, or gruel mixed with a very small quantity of animal broth. Six ounces of barley-gruel mixed with one or two ounces of chicken broth will be found acceptable to the great majority of children. Whey made with rennet to which cream has been added also makes an acceptable change. Alcohol in any form should never be used in any of these cases.

The bowels next require attention. There should be two or three stools daily. This is easily accomplished by the use of small doses of calomel, $^1/_{10}$ grain per hour (until one grain has been given), every third or fourth day, with two to four ounces of citrate of magnesia the intervening days if necessary.

Small doses of aconite, ¼ minim every two hours for a child three years of age, are prescribed usually as a routine measure. Aconite in my hands has proven a very useful drug in this connection. In the dosage suggested it produces a moderate diaphoresis which is what we require. While we do not expect much from aconite as a diuretic, its action in this respect is often surprising. When the aconite fails, hot air is brought into use. The hot air is generated by means of a kerosene lamp to which has been attached a funnel and a one inch tin pipe which has been bent at a right angle in the middle and placed so as to conduct the hot air under the bedclothes. The advantage of the hot air generated in this way lies in the fact that the child can be kept in the same temperature as long as desired. This is not possible by any other means. Hot-water bottles become cold unless watched very carefully and the hot pack and bath can only be applied for a short time. If diaphoresis is not produced, the hot pack is used in connection with

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the dry heat. The child is immersed in water at 108° F. and kept there from ten to twenty minutes, hot water being added from time to time to keep the temperature at the point mentioned.

The pack and bath as sometimes used can do much harm. Sufficient care as regards exposure is often not exercised when the child is removed from the pack or the bath. If placed in a bed which has not been properly heated by hot-water bottles, the nephritis will be made worse.

Cupping over the kidneys has never been of any assistance in severe cases.

Hot poultices may be of slight service; they require very close watching, however, and must be changed frequently and not be allowed to cool.

A remedy which stands out prominently superior to all others is the hot-water flushing of the colon. I look upon the colon flushings as being of more value in restoring the kidney function than any other one measure. It may be used with advantage when the urine first becomes scanty as well as when convulsions are threatened or present. For a child three years of age, sixteen to twenty-four ounces of normal salt solution at 110° F. is introduced into the colon by means of a rectal tube which should be inserted at least ten inches. The object, of course, is to have the water retained, and the higher it is placed in the colon the more successful we will be in this respect. If the water is expelled shortly after its introduction, the same amount will often be held if it is reintroduced at once. A pint to a pint and a half every six to eight hours answers best in the majority of instances and will be retained by most patients. The results usually are most gratifying. After from three to five flushings in a stubborn case the kidneys often begin to act and soon there is a fairly free flow of urine. The child must be kept in bed until the urine has been normal for two weeks.

MEDICAL PROGRESS.

Tendon Surgery.—F. S. COOLIDGE (*Annals of Surgery*, 1901, No. 5) advances the following points for guiding the operator in tendon surgery, especially that which concerns the subject of infantile paralysis. The time for doing the operation should always be when the reparative process has come absolutely to a standstill. Massage and electricity should be applied until all progress under them has ceased and when it is precisely evident, what muscles are affected permanently, partially or have escaped. Regard must be had for the proportion between the strength of the muscle to be grafted and that of the muscle lost, and especial care must be taken not to overstretch the muscle grafted. Examples have occurred where by patience the peroneus tertius performed the functions of the tibialis anticus and where the sartorius after a few months made a good extensor instead of the quadriceps. Two weak tendons can be made to supplant one strong one. Muscle substance cannot be successfully grafted one into the other, hence the tendons are the best means of doing this. The suturing can best be done above the annular ligament, although it is possible to perform it below also. The tendon of Achilles has no annular ligament. A tendon can by blunt dissection be carried a long distance before the graft is done, beneath the fascia or the skin. Once a muscle of the calf was carried through the interosseous membrane and grafted upon an anterior muscle of the leg. The end-to-end or the side-to-side method of suture is not very secure, consequently the normal tendon is now split a short distance and the paralysed is carried through it and then sewn in situ. Chromated gut with a life of from four to six weeks ought to answer every purpose and is the best for all-round use. Plaster-of-Paris splints for two months, then massage and protection for two months more, with gradually increasing passive motion, and, finally, active motion finish the treatment.

A Case of Trichinosis.—Puffy face and eyelids with marked pallor in a case of trichinosis observed by GEORGE R. SEARS (*Boston Med. and Surg. Jour.*, May 30, 1901) at first suggested acute nephritis. The skin was hot and dry, forearms and legs swollen, but without edema. Tenderness present in tibiæ, calves, thighs and forearms. Successive blood-counts showed moderate leucocytosis with the following percentages of eosinophiles: 17½, 13, 31, 39, 33, 23 per cent. The temperature curve resembled that of typhoid, highest point 104° F. A piece of gastrocnemius muscle was examined eight days after beginning of pains in legs; myositis was found, but no trichinæ. Ten days later a piece of muscle was removed from opposite leg; thirteen trichinæ were seen in a single microscopic field.

Operation in Typhoid Perforation.—H. CUSHING (*Annals of Surgery*, 1901, No. 5) states that unfortunately in this condition statistics are misleading, because they state only the fact as to the operation and its results without proper regard to the various types of case encountered. In Europe the various authorities teach the doctrine of dalay, often till the symptoms are purely those of the consequent peritonitis, which they confuse with those of a perforation. In this country, on the other hand, the attitude of the medical and surgical experts is more and more pronounced toward a very early intervention. Just so soon as the symptom-complex indicates that a perforation has occurred should an exploratory laparotomy under local anesthesia be undertaken. The analogy between this condition and that encountered in appendicitis is striking. Here the earlier the operation the better the results so far as life-saving goes. As in appendicitis so in typhoid perforation there are the cases in a pre-extravasation

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stage, the cases in the state of localized peritonitis and the cases of generalized peritonitis, with all the chances for best results in favor of those in which the diagnosis and intervention are had in the earliest possible period. Keeping these facts in mind and ever watching all typhoid-fever patients for any abdominal signs, the attending physicians will be able to call in the surgeon early enough to make the statistics of those saved among all fully fifty per cent. by early exploration.

Nasal Conditions of the Aged.—Five cases are reported by B. DOUGLAS (*N. Y. Med. Jour.*, May 25, 1901) to show that it frequently occurs that marked pathological changes are found in the nasal cavities of old people without giving any important symptoms—at least, comparable with the distress which ordinarily results from similar lesions in younger people. A satisfactory explanation is impossible, but he believes that probably the physiological activity of the nose has been so increased as to overcome the damage from the lesions, or perhaps the lesion with its resulting discharge and reflex pain is, in some way, less active and allows the nose to resume its physiological function. The symptom of pain depends not so much upon the degree of inflammation or circulatory disturbance as upon a certain condition of the nervous structures that are distributed through the nares. In older people when the lesions have developed slowly and without marked mechanical irritation from external causes, it may happen that these people are not neurotic and will never develop any of the usual reflex phenomena. The degree of secretion depends largely upon the activity of the inflammatory process and, hence, if it has been a very slow and chronic affair, very marked changes may finally result without having given previous symptoms of annoying discharge.

Operative Treatment of Uterine Cancer.—HERZFELD (*Wiener med. Woch.*, 1900, No. 49) maintains that it is fallacious to speak of abdominal hysterectomy as a "radical" operation, for the following reasons: (1) The cellular tissue of the pelvis, which is commonly involved, cannot be entirely removed. (2) It is technically impossible to remove all neighboring lymph-glands. Vaginal hysterectomy is regarded by the author as safer than the abdominal operation, the latter procedure, in the hands of Wertheim, showing a mortality of 30 per cent. While vaginal hysterectomy is only palliative in 50 per cent. of the cases operated upon, it is absolutely without danger and in the remaining cases lasting results are obtained.

Amyl Salicylate.—LYONET (*La Méd. Moderne*, May 22, 1901) proposes amyl salicylate as a substitute for methyl salicylate for the following reasons: (*a*) It is fully as active; (*b*) it lacks the disagreeable odor of the drug formerly used; (*c*) it is no more irritating. Two to three grams are painted over the surface of a rheumatic joint, which is then covered with a sheet of gutta-percha; a rapid diminution of pain and swelling follows. The results of administration by the mouth have been fully as satisfactory as those due to local application.

THERAPEUTIC HINTS.

Chorea.—In treating chorea we must bear in mind that voluntary movements of any kind tend to make the involuntary movements more marked, and that the movements cease during sleep, therefore the more quiet a patient can be kept, the better chance there is of proper nutrition for the body and nervous centers. When the motions are severe, chloral in full dose is probably the best narcotic, especially when given with a bromide. Morphine sometimes is better, but may increase the excitement. Inhalations of chloroform may be useful to get the patient off to sleep. The patient should be given liquid nourishment and stimulants; and frequent spongings to stimulate the skin and calm the patient. Constipation is the rule and requires cascara, aloes, etc. Arsenic is the most used remedy and is certainly of value in the dyspeptic conditions of chorea; it may be assisted by iron in the later stages. Other drugs used are zinc oxide, cannabis, physostigma and conium. In chronic cases the much-recommended change of scene often makes the movements worse and prolongs the attack. Massage may be of considerable value. Chorea in many cases is allied to hysteria; therefore, firm, kindly, moral treatment is called for, the patient being encouraged to control the movements by effort of will.—ASHBY and WRIGHT *in "Diseases of Children."*

Blepharitis.—The disease is apt to be obstinate, and it is of great importance to remove the cause. Lack of cleanliness, faulty habits and errors of refraction must be looked after. The edges of the lids must be cleansed thoroughly with soap and water, freed from scales and crusts, dried, and then covered with an ointment of yellow oxide of mercury or of ammoniated mercury. To remove the crusts, soap and water, or borax-water should be applied upon cotton. In the ulcerative form an occasional application of one- or two-per-cent. solution of silver nitrate to the raw spots will prove useful. In severe and long-standing cases it will be necessary to pull out all the lashes and then to apply the treatment given above.—C. H. MAY *in "Diseases of the Eye."*

For Bronchitis.—

℞ Pulv. senegæ
Sod. benzoat.
Sod. bicarb. } aa....gm. 0.30 (gr. v.)

In capsule four times a day.

Or

℞ Terpin hydrat
Ac. benzoic.
Pulv. senegæ } aa....gm. 0.30 (gr. v.)

In capsule four times a day.

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A WEEKLY JOURNAL

OF MEDICAL SCIENCE.

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SATURDAY, JUNE 15, 1901.

THE AMERICAN MEDICAL ASSOCIATION AND ITS WORK.

THE recent well-attended meeting of the American Medical Association at St. Paul shows better, perhaps, than did meetings held at points more convenient for larger numbers of medical men how deep is the profession's interest in the work of the National organization. The Association has in these latter years risen out of a phase of quasi-provincialism to be thoroughly representative of the best elements of scientific and professional progress in American medicine. This state of affairs is most encouraging. At the beginning of the new century the clearest truth in practical life is that assured success is the outcome only of thorough organization. Many problems await solution in the social and legal relations of the medical practitioner to his clients and to public health. These can not be definitely and properly solved unless the weight of a united medical profession can be brought to bear upon legislation and public opinion.

The most noteworthy feature of the last meeting was the liberal attitude of the President and members of the Association toward that portion of the New York medical body whose defection ten years ago did so much to delay the unification of the profession in this country. The recently adopted opinions are, however, only the result of a just survey of the motives and conditions that prompted the attitude assumed by the New York Society before its enforced withdrawal. The President's acknowledgment of the right-mindedness of the motives that formed the basis for the action of the representatives of the New York medical profession must go far to repair the breach that still exists.

The selection of a New Yorker as President of the American Medical Association and the acceptance of the invitation to hold the next annual meeting at Saratoga must be taken as indices of a successful movement that is to give back to the Empire State her long lost influence in the councils of the National body of physicians. The New York State Medical Association, thanks to the unsparing efforts of certain members, has been growing handsomely in numbers and influence in recent years. The auspicious circumstance of having the annual meeting of the National Association to inspire to renewed efforts should add greatly to its membership and prestige. With the recently adopted scheme of reorganization of the State and National Associations, to cement the union of all the societies composing them and to make their influence available for professional purposes, there seems no reason to doubt that the day of a really united medical profession is at hand.

The new plan of government adopted by the National Association promises by its thoroughly representative character to do away with the petty sectional politics that have sometimes proved a jarring element at annual meetings. The proposed reformation of the code, already under way, encourages the hope that a stumbling-block in the way of certain serious minds as regard membership in the Association will be soon removed. For many years past some of the rules of conduct embodied in the old code have, if taken in their strictly literal signification, been a dead letter Since they have proved a source of disunion, it must be a cause of congratulation on all sides that they are to be modified to meet the change of circumstances and evolution of conditions which make them a relic of the past.

The recent St. Paul meeting was especially

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noteworthy for the social relaxation it afforded attending members of the Association. Every year the social gatherings take on a more friendly character and the good effected is quite as much due to the familiar fellowship that reveals the character of coworkers in the same field as to the scientific discussions that mirror recent practical advances in the various specialties. The promise may confidently be held out that visitors to the meeting at Saratoga next year will meet with as pleasant a welcome and will be greeted with social features as attractive and gratifying as any ever provided. That the American Medical Association is about to enter into the fulness of its heritage as a thorough representative of the whole medical profession of the country now seems assured.

PARACENTESIS IN ASCITES.

THERE is considerable discussion always as to the advisability of evacuating fluid that exudes into serous cavities. With regard to pleuritic fluid there is almost an agreement that it should not be removed by mechanical means, unless it is causing acute symptoms, or has been present a long time and is a source of considerable annoyance. Besides, conservative opinion rather tends to formulate the practical rule that not much pleuritic fluid should be removed at a sitting. As soon as the intrathoracic pressure has been materially lessened so as to relieve disturbance of function, then the rest should be left for natural channels to carry off. Unfortunately this conservatism with regard to the removal of pleuritic fluid has had a distinct influence in molding general opinion as to the treatment of ascites, and often serious harm is done by permitting fluid to collect in the abdomen until pressure is so high as to interfere with the circulation through important abdominal organs.

Much of the hesitation to do early paracentesis abdominis for ascites is due to the fact that the older clinicians, such as Niemeyer, Frerichs, and Bristowe were opposed to it. The popular impression, too, that abdominal tapping is always done as a forlorn hope and the tradition that patients seldom recover after it has been once done have had their influence in delaying the little operation. It is the old difficulty of a vicious circle in the formation of a medical conclusion. The popular impression is due to the fact that abdominal paracentesis was so long delayed in the past that it was really only a last resort. Physicians had very slight hope of affording any permanent relief by it. No matter what the condition that produces ascites it should never be allowed to develop to a degree that causes serious respiratory difficulty. Before this occurs there is always such interference with the function of important organs in the abdomen that the patient's general condition deteriorates markedly and rapidly.

In America we owe the tradition to tap the abdomen early to that distinguished clinician Dr. Austin Flint. As long ago as 1863, he wrote in his clinical report on ascites, "Unpromising as are the majority of cases of ascites, I cannot but believe that as regards the prolongation of life and as much improvement as is compatible with existing structural disease, the success of medical practice would be enhanced by employing less than has been the custom, diuretics, hydrogogue cathartics and depressing remedies, and by resorting earlier than is usually done to tapping." More than twenty years later Professor Flint wrote, "After the added experience of these last twenty busy years, I hold to this same opinion of the advisability of early tapping with a strong conviction of its correctness as based on reason and clinical facts." Flint's well-grounded opinion had its effect on European clinicians and Eichhorst, one of the most conservative of the Germans, insisted ten years ago that "puncture of the abdomen and evacuation of the ascitic fluid must not be left as a last resort, or inevitable injury will be done to important organs."

In the Lumleian lectures last year Dr. Cheadle summed up very well the English opinions on the subject. They are still very conservative but a notable change has taken place in recent years in favor of advising earlier paracentesis for ascites. Dr. Cheadle himself has had none but the most gratifying results from early and, if necessary, repeated tapping.

In hepatic ascites this procedure forms for him now an essential part of the treatment. In ascites due to atrophic cirrhosis where the good accomplished is only transitory and nothing can be hoped for beyond a respite of a few months the early removal of the ascitic fluid enables the patient to live longer in comparative comfort instead of struggling through a shortened life in hopeless, almost unmitigated distress. This same thing is eminently true of that other equally hopeless condition, advanced cancer of the liver with ascites.

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Text-books of medicine generally lay too much stress on the use of diuretics and hydragogue cathartics in the treatment of these cases of ascites. Dr. Cheadle suggests that the expression "purged to death" is not infrequently sadly appropriate to the records of cirrhotic ascites. However much good it may do once or twice, purging as a repeated therapeutic method is certainly calculated to do more harm than good.

When ascites is due to kidney lesions moderate continuous catharsis does good, for toxic material must be eliminated. Diuretics are under these circumstances apt to do more harm than good. Stimulation of the diseased kidneys only hastens their degeneration. If intra-abdominal pressure is interfering with their normal circulation at the same time, then the end is not far off.

In a word, early tapping is the indication for ascitic accumulation, as soon as it is evident that fluid is still collecting and primary purgation and diuresis do not affect the condition. The main reason for hesitation in the employment of this remedial measure in former years was the fear of infection producing peritonitis. Recent clinical experience shows that with ordinary precautions this fear is unfounded. Abdominal tapping is often followed by free diuresis, the result of the relaxation of pressure on the kidneys which affects the renal veins more than the arteries and thus causes passive congestion. The general condition at once improves. Some lives will be saved by early and, if necessary, repeated abdominal paracentesis; many will be lengthened and the discomfort of a large number of patients will be greatly mitigated.

THEN AND NOW.

WE are just entering upon the period of the year when medical society meetings are especially frequent. We shall hear much of present-day medicine and of its advances. The fact that this is the opening year of a new century will tempt many to be retrospective. Undoubtedly there is much in the old-time medicine to condemn, but advance in medicine has been so rapid of late years that it will not be long before our own positions in medical science will seem as absurd to others, or even to ourselves, as do those of a century or more ago to the present generation.

From this standpoint of judging others as we would be judged, our summations of medicine aforetime will not be so utterly condemnatory, and there will come the realization that after all the old medicine was the soil, weedy though it was, out of which has come the promising harvest of medical science in our day.

There is a chapter in "The Transit of Civilization" by Edward Eggleston, concerning medical notions in the seventeenth century. It is a far cry, but it touches a not unsympathetic chord that thrills to the gropings of the physician of that time to find something that would do his patient good. There was no therapeutic pessimism abroad. Medical infidelity was unknown. The bother was men believed too easily in the efficacy of remedies. The pendulum of medical opinion was in its inevitable swing at the opposite end to which it is now. One distinguished authority asserted that we could not know more of Nature than Aristotle, nor of therapeutics than Galen, and so the old writers must be studied rather than the case. After a perfunctory examination of the patient's pulse and tongue then hours must be given to the search through Galen for all possible hints as to treatment.

Until the middle of the eighteenth century Galen's famous "theriac," the cure-all, the panacea for every ill that flesh is heir to, and a few others besides, was retained in the British Pharmacopœia. Then it was rejected by a majority of a single vote in the Pharmacopœial Commission. The famous, or infamous, mixture contained 60 ingredients—nearly every known drug in some form or other. The important thing about drugs in those times, however, was not so much their essential properties as those they acquired from being gathered at a certain time of the moon and a certain conjuncture of the planets. There was also the accepted doctrine of a sympathy and antipathy of inanimate things toward certain human natures. Temperaments were carefully scrutinized and it was well known, for instance, that the man of choleric disposition, with iron will, would not stand iron well though his condition might seem to give indications for it. On the other hand, patients of capricious appetite and of shifting ways—of the mercurial nervous temperament, in a word—would not be improved by mercury. Blood purification was the great shibboleth of the quack of the seventeenth century, as it has been from the beginning and as it is even in our vauntedly illumined day.

The cast-off rattles of the rattlesnake were an

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almost infallible remedy for pains of all kinds, especially for headaches about the menstrual period and for the pains of parturition. Sometimes they were applied externally with due shaking (and this custom has not yet died out in country places). Sometimes the rattles were crushed and taken internally. At a time when the famous weapon ointment so humorously described by Oliver Wendell Holmes—the ointment that was infallible but had to be applied to the weapon not to the wound—was so popular, almost any absurdity in surgical practice does not seem surprising. Milk was given in large quantities in jaundice, because it was argued that white would neutralize yellow. Potable gold was the remedy reserved for wealthy patients. Metallotherapy, a distinguished Frenchman has called it, the effect being produced not by increasing the deposit of gold in the patient's system, but rather by depleting the plethora of the yellow metal in his pockets. Those were the days of the depleting methods of therapeutics, bloodletting, blistering and the rest, and some of them have not gone entirely out of fashion yet.

Of course we feel ourselves thankful to be free from the incubus of all these medical superstitions. Many of them die hard, however, and live on in modified form even in our enlightened day. Popular medicine is largely made up of beliefs quite as unreasonable as were in vogue two centuries ago. One of the duties of the modern physician is to make scientific medicine better understood. Another is to bear in mind that our present generation is not infallible and that accepted opinions are by no means absolute truths. Medical society discussions will lose in acrimony and gain in value with the realization that our position of the pendulum of medical opinion is by no means the ultimate resting place of either theory or practice. Long ago the wise old Greek father of medicine said, "Life is short and art is long, the occasion is fleeting, experience fallacious and judgment difficult. The physician must be prepared, not only to do what is right himself, but to make the patient, the attendants and the conditions coöperate for cure." After 2,500 years Hippocrates' words are as weighty with practical significance as they were at any time in the history of medicine. They surely represent the best plea for peaceful conservatism in the midst of rational, scientific progress that could well be made and are a precious lesson to the beginning century.

ECHOES AND NEWS.

NEW YORK.

Cornell University Medical College.—The third annual commencement of Cornell University Medical College was held last week. The degree of M.D. was conferred on twenty-six graduates, many of them women.

Smallpox in Suffern.—Dr. Johnson, Secretary of the State Board of Health Commission, has investigated a complaint made by the health authorities of New Jersey to the effect that smallpox was being brought into that State from this State, and that the disease had been traced to Suffern, N. Y. Dr. A. S. Zabriskie is health officer of Suffern, and he was asked some time ago by the State Health Department what the conditions were. He replied that there was no smallpox there, but that there was a number of cases of "Cuban itch." Investigation, however, showed that these cases were in every instance smallpox. Dr. Zabriskie, however, insisted that there was no smallpox. Conditions in Suffern are said to be serious. In one family there are six cases. It is also believed that the disease is being carried not only into New Jersey, but into New York City and other localities.

Columbia University Commencement.—Commencement was held June 12th. The graduation class of this year consisted of 142 students. The honorary degree of Master of Science was conferred upon Dr. George M. Lefferts, Clinical Professor of Laryngology and Rhinology of this University.

Ocular Defects in Applicants at West Point.—No official report has as yet been made by the Medical Examining Board, but in official circles it is said that about 25 per cent. of the young men who presented themselves for entrance examination at the Military Academy were found physically disqualified, mainly on account of defects of vision.

New Brooklyn Post-Office Physician.—Dr. W. H. Clowminzer of Brooklyn has been appointed physician for the Brooklyn Post-Office. This new Federal position has been made on the recommendation of Postmaster Wilson, who not infrequently discovers that some of the employees were in the habit of feigning sickness.

Journal of New York Pathological Society.—In lieu of the former annual volume of Transactions, the New York Pathological Society now issues a journal once a month. The first, a very creditable, number has just been received.

Bequest to St. Vincent's Hospital.—The sum of $2,500 has recently been bequeathed to St. Vincent's Hospital.

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Harlem Medical Association.—At its last meeting, June 10th, the Harlem Medical Association elected Dr. Joseph E. Lumbard President, Dr. Edmund L. Cocks, Vice-President; Dr. W. H. Luckett, Secretary, and Dr. W. H. Stewart Treasurer.

PHILADELPHIA.

Fewer Cases of Typhoid.—The epidemic of typhoid fever in the twenty-fourth and thirty-fourth wards has somewhat abated, though a large proportion of recent cases has been from that district. No cause for the outbreak has been discovered.

Sterilized Milk and Ice at Less Than Cost.—The Philadelphia Sterilized Milk, Ice and Coal Society has begun its eighth season of work. The Society furnishes to poor people milk at 5 cents per quart and for infant feeding sterilized milk at 1 cent per bottle.

Obituary.—Dr. Edmund Beale died June 1st at his home on Second street, where he had practised medicine and pharmacy for nearly half a century.—Dr. J. Edward Wright died June 9th of tuberculosis in his forty-third year. He had practised in the southeastern section of the city for twenty-one years.

Building Hospitals Restricted.—The recent Act of Assembly providing that hospitals shall not be erected in built-up sections of cities has been pronounced constitutional and will be enforced. This will interfere with three hospitals now under consideration in this city.

Graduation Exercises, University of Pennsylvania.—The Dental and Medical Societies held their meeting June 11th, the medical reunion concluding with a banquet in Houston Hall, at which Provost Harrison responded to the toast "The University." A portrait of the late Prof. John Ashhurst, M.D., was presented to the University by the Society. Dr. A. N. Gaylord delivered the annual oration before the Dental Society.

Resident Physicians at the Philadelphia Hospital.—Efforts are being made to take the appointments of resident physicians at the Philadelphia Hospital out of the sphere of political influence. This year a competitive examination was held, but instead of the Board electing the residents, the eligible list was sent to the three colleges of the city. The college authorities will select the men best qualified for the place and these will be elected by the Board. Seven men are to be chosen from each of the three colleges. The Woman's Medical College has also secured the concession sought for during some years—the admission of three graduates to the resident staff of the hospital. The experiment of female internes was tried some years ago, but not with satisfactory results.

Treatment of Thermic Fever.—At the meeting of the College of Physicians June 5th, Dr. J. M. Spellisy read a historical review of the cases of thermic fever admitted to the Pennsylvania Hospital. The first recognized case was in 1764, the case being recorded under the diagnosis "drinking cold water," as the cause. The paper was also a study of the evolution in methods of treatment at the hospital. Several points regarding treatment were brought out in the discussion of the paper. Dr. Morris B. Lewis believes there is much to be learned regarding the pathology and treatment of the condition by a study of the blood. Dr. J. C. Wilson advocates the use of infusions of salt solution because of the evidences of auto-intoxication. Dr. F. A. Packard spoke of some features of thermic fever not generally noted in text-books. These are a characteristic, mousy odor, a curious, crooning groan, and a mixture of tonic and clonic convulsions. Lack of serosity of the blood is the probable cause of the symptoms. Dr. James Tyson said that the latter point was the probable explanation of the good results following immersion in cold water, some absorption taking place, and more rapid recovery following than when the patient is simply rubbed with ice.

CHICAGO.

Nurses Graduate.—The commencement exercises of the Woman's Hospital of Chicago, given under the auspices of the Ladies' Board of that institution, took place June 4th.

Wardenship of Cook County Hospital.—Daniel D. Healy has notified President Hanberg of the County Board that he will accept the wardenship of the Cook County Hospital, and it is said that he will supersede the present Warden, James H. Graham, about June 15th.

Addition to German Hospital.—A $40,000 addition to the German Hospital is the project undertaken by Superintendent Burmeister and the Trustees of that institution. The Hospital now has accommodations for 100 patients, and there is a demand for double the quarters available.

Visiting Nurse Association.—During May the Visiting Nurse Association of Chicago cared for 704 patients and made 3,222 visits. In coöperation with the Bureau of Charities provision has been made to send fifty women and children on outings during the summer.

New Physiology Scholarship, University of Chicago.—By the will of Dr. Marie J. Mergler, who died at Los Angeles, Cal., in May, the University of Chicago is to have a $3,000 scholarship of physiology. Dr. Mergler also bequeathed $3,000 to the Woman's Hospital of Chicago.

GENERAL.

New Fellowship Appointment in Johns Hopkins University.—Florence R. Sabin, M.D., has been appointed to the fellowship in the Johns Hopkins Medical School provided

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by the Baltimore Association for the Promotion of the University Education of Women.

Case of Plague on an Army Transport.—The War Department has been advised from Nagasaki that the delay in the departure of the transport "Kintuck" from that place had been due to a discovery of a case of plague on board which caused the vessel's detention.

Canteen Resolutions of American Medical Association.—By unanimous vote the American Medical Association adopted a report indorsing the movement for the reestablishment of the army post canteen. The Committee on Legislation, through the Chairman, Dr. H. L. E. Johnson, presented a report reciting the resolutions adopted by the Military Surgeons last week and continuing as follows:

"We have carefully considered the resolution proposed and declare it to be wise and proper and of importance to every citizen of the Republic. The resolution is the outgrowth of careful study and observation by the Medical Department of the United States Army, is concurred in by the commanding officers at the several posts, and is intended to correct serious abuses under the present law which result in drunkenness, desertion, insubordination, dishonorable discharge, crime, poverty, appalling increase in disease and invalidism among the soldiers of the United States Army.

"We find that the experience of the foreign Governments coincides with that of the National Association of Military Surgeons in the necessity for the army post exchange, or canteen.

"We recommend that the American Medical Association adopt the resolution proposed, and that it petition the Congress of the United States to repeal at the earliest moment the objectionable law which prohibits the army post exchange."

The Association adopted the following resolution: "*Resolved,* That this body deplores the action of the Congress in abolishing the army post exchange, or canteen, and in the interest of discipline, morality, and sanitation recommends its reestablishment at the earliest possible date."

Consumptive Immigrants Are Barred.—Immigrants with tuberculosis of the lungs hereafter will be debarred from all ports of the United States regardless of boards of special inquiry, which heretofore have used their discretion in the matter. The order, issued by Superintendent of Immigration Powderly, is mandatory. The Board of Special Inquiry at Ellis Island, after receiving the report on a case of tuberculosis from Dr. G. W. Stoner, chief of the medical division of the immigration service at New York, will merely have to debar the immigrant. The Supervising Surgeon-General of the Marine Hospital Service at Washington has declared that "tuberculosis of the lungs is now considered a dangerous contagious disease." Immigrants with pronounced symptoms of consumption often have been deported. There are a few instances where a child ill of the disease has been permitted to land with its parents; hereafter there will be no more of these. The rule will apply also to alien passengers coming in the first and second cabins. The steamship agents say their companies will be affected very little by the new order, as their ships bring over few unhealthy immigrants.

Hospital Superintendent Removed.—The Superintendent of the Isolation Hospital at Paterson, N. J., has been removed, and the resignation of the head nurse accepted, after an investigation by the Board of Health. One of the complaints was of neglect to fumigate the ambulance, whereby, it was charged, a boy suffering from scarlet fever contracted diphtheria and died.

New Appointment, College Physicians and Surgeons, Baltimore.—Dr. William Royal Stokes, City Bacteriologist in Baltimore, has been elected a member of the faculty of the College of Physicians and Surgeons in that city, and has been given the chair of pathology.

Doctor in "Innocents Abroad."—In reply to an inquiring citizen of Chicago, Mark Twain writes that the doctor in "Innocents Abroad" was Dr. A. Reeves Jackson, a prominent physician of Chicago, who died in 1892.

New Haven Water-Supply.—All of the water-supply of the City of New Haven will by next fall be run through immense filters to be constructed by the New Haven Water Company. The company will spend, it is announced to-night, $1,000,000 in order to perfect the new plant, and will commence to install the filters at once. The supply from the Saltonstall, Lake Whitney, Maltby Lake, and Woodbridge systems will all be run through hugh filtering machines before it enters the city pipes. The experiment is the first of the kind ever tried in Connecticut.

Army Medical Appointments.—The following appointments were made by the President last week: Surgeons of volunteers, rank of major, Simon J. Fraser, Howard A. Grube, Richard S. Griswold, Abram L. Haines, Damaso T. Lainé; assistant surgeons, rank of first lieutenant in the Porto Rico regiment, United States volunteer infantry, S. Moret and George F. Mayers.

Discovery of New Antiseptic.—According to the despatches in the lay press, an important discovery in the science of antiseptics, upon which Drs. Frederick G. Novy and Paul C. Freer have been working for over a year in their respective laboratories, has just been made public. The new antiseptics are organic acid hyperoxides. In a watery solution five one-thousandths of 1 per cent. of active oxygen derived from the hyperoxides is fatal to all bacteria. The hyperoxide which was used for the experiments is benzozlacital, and this, as was shown by experiments on dogs, can be

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taken internally in large doses without poisonous effect. The discovery promises to result in still other developments of importance.

Mr. John D. Rockefeller Thanked.—The American Medical Association at its recent meeting adopted resolutions expressing thanks to John D. Rockefeller for his gift of $200,000 for the furtherance of scientific research along medical and surgical lines.

Prevalence of Smallpox in the United States.—According to the Public Health Reports issued May 31, 1901, by the U. S. Marine-Hospital Service 25,355 cases of smallpox occurred in the United States from December 28, 1900, to May 31, 1901. For the corresponding period of 1900 11,448 cases were reported. Of the total 25,355 cases this year 427 died, a mortality of a little over 1.5 per cent. For the same period last year this was over 5 per cent. The ten States showing the greatest figures for 1901 are as follows: Tennessee, 4,296; Kansas, 4,033; Louisiana, 3,228; Minnesota, 3,071; Colorado, 2,197; Ohio, 1,894; New York, 935; Indiana and North Carolina, 834 each; Nebraska, 754.

Changes in Army Medical Service.—The following changes in the stations and duties of officers of the Medical Department are ordered: Capt. Francis A. Winter, assistant surgeon, from Fort Sheridan to Jefferson Barracks, relieving Major Marshall W. Wood, surgeon, who will proceed to St. Louis and assume charge of the medical supply depot to relieve Lieut.-Col. Joseph B. Girard, Deputy Surgeon General; Lieut.-Col. Girard to Vancouver Barracks for duty as chief surgeon of the Department of the Columbia. First Lieut. Chase Doster, to the Twenty-first infantry.

A New Journal of Scientific Medicine.—It is understood that a new journal devoted to the interests of scientific medicine will shortly be forthcoming from Boston. It is reported that it has been placed in the competent hands of Dr. Harold C. Ernst, which is assurance of its high aims.

Sanitarium for Fond du Lac, Wisconsin.—On the 12th inst. the corner-stone of St. Mary's Sanitarium was laid with appropriate ceremonies by Archbishop Katzer. The building, which will cost $50.000, is the gift of John T. Boyle.

"Healers" Certificate.—The International Machinists' Association decided recently that a certificate of death from a Christian Scientist doctor would not be recognized in the future in a claim for death benefits.

Obituary.—Dr. Thomas Bond of London, a well-known surgeon and analyst, committed suicide June 6th by throwing himself from a third-story window of his residence. He had been suffering from melancholia for some time. Dr. Bond was surgeon to the late Mr. Gladstone.

Major Louis S. Tesson, medical director of the Department of Columbia, and post surgeon at Vancouver barracks, died June 7th from apoplexy. He had been sick about one month. Major Tesson was fifty-nine years old, a native of Missouri, and joined the Medical Department of the United States Army twenty-six years ago at St. Louis. He had served at all the important army posts in the United States.

Dr. Maurice Lauren Healy of New York City died at the home of his mother in Plattsburg, N. Y., June 8th. Dr. Healy was born in Plattsburg thirty-seven years ago, and was graduated from the New York University Medical College. For three years he was a lecturer in the Post-Graduate College and was assistant in the Demilt Dispensary.

Dr. W. H. Daly of Pittsburg, Pa., died suddenly June 9th. He was well known as the originator of the "embalmed beef" controversy that led to an investigation after the Spanish-American War. He was born in Indiana County, Penn., July 11, 1842. From 1853-4 he attended a course of lectures in the Jefferson Medical College, but graduated from the University of Michigan in 1866. During the Civil War Dr. Daly was for a time a medical cadet at the Germantown United States Army Hospital and an assistant surgeon in the White Hall, United States Army, and the Savannah (Ga.) General Hospitals. He was one of the medical officers sent to Jacksonville, Fla., to receive the final instalment of prisoners from Andersonville at the close of the war. Upon the termination of his service in the army Dr. Daly settled in Pittsburg, where he practised his profession. He again entered the army when the war with Spain began, and became surgeon upon the staff of Gen. Miles. His field service extended from Tampa to Porto Rico. Dr. Daly was a member of the American Medical Association, Medical Society of the State of Pennsylvania, the Alleghany Medical Society, of which he was Recording Secretary; the Pittsburg Academy of Medicine, and the Mott Medical Club.

Dr. R. H. Chilton of Dallas, Texas, died at his home June 6th. Dr. Chilton was an eminent oculist and had enjoyed a large practice in the southwest for more than twenty-five years. He was about fifty years of age.

CORRESPONDENCE.

OUR LONDON LETTER.

[From Our Own Correspondent.]

LONDON, June 1, 1901.

THE LONDON POLYCLINIC—A HOUSE OF CALL FOR MEDICAL PILGRIMS—THE LABORATORY OF THE COLLEGES OF PHYSICIANS AND SURGEONS—THE FINANCES OF THE COLLEGE OF PHYSICIANS—THE MANAGEMENT OF THE COLLEGE OF SURGEONS—A COMING REFORMER—MR. ANDERSON CRITCHETT.

THE chief event of medical interest during the past week in London is the festival dinner in aid

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of the funds of the London Medical Graduates' College and Polyclinic which was held on May 22d. Some five hundred gentlemen, mostly members of the medical profession, sat down to a banquet of the true British type—overbaked meats which coldly furnished forth the long tables, followed by a sluggish, but unending stream of dismal oratory. But the cause for which so many worthy citizens were content to suffer was felt to be of sufficient importance to justify some sacrifice of comfort. The Right Honorable Arthur Balfour, the Leader of the House of Commons, who was in the Chair, made a powerful but somewhat inappropriate speech, for it was virtually a plea for the endowment of scientific research. Now the Polyclinic has nothing to do directly with research; it has indeed bacteriological and other laboratories, but these are intended purely for instruction. The real object of the institution is to enable men who are in busy practice to bring their knowledge and skill up to date *cito, tuto,* and as far as possible *jucunde.* These men cannot get what they want at the medical schools. There they are in the way and are made to feel that they are in the way; and in any case, it is hardly pleasant for a man who is already actively engaged in the battle of life to sit on school benches among a throng of irresponsible boys.

For many years the need of post-graduate instruction has been keenly felt in this country, and it was to supply that need that the Polyclinic was founded some three years ago. The institution had many obstacles to encounter from the external jealousy of the medical schools (of which there are no fewer than eleven in London), and from the internal jealousies of its own promoters. Of these the most prominent was Mr. Jonathan Hutchinson, who by means of his influence, which is deservedly very great with the profession, and by generous gifts and loans of one kind or another, made the embryo institution viable and helped it into healthy life. But his is a masterful personality, and the work was not accomplished without a good deal of friction. There appears, however, to be every prospect that the Polyclinic will now grow in importance and efficiency. The membership is already about seven hundred; the lectures and demonstrations are well attended, and increasing numbers of general practitioners bring cases for consultation.

The institution is further beginning to fulfil a function of a different, but not less important nature. Before its creation London had to the medical visitor from abroad been little better than a wilderness. There was indeed plenty to see, but it was hard to discover how and where to see it. It was a mighty maze, apparently without a plan; and there was nothing to guide the wanderer in his search. Hence medical pilgrims from America and from the Colonies found it more profitable to visit scientific shrines where the "shows" were better organized. The Polyclinic, in addition to the advantages which it offers to native practitioners, is intended to be a house of call for the pilgrims aforesaid. There they will get all necessary information about the medical sights of London, and they will be put in the way of using their time among us to the most profitable purpose.

Unfortunately the Polyclinic is not yet self-supporting and although the profession has done its part, the public to which appeal has been made more than once has not yet responded very liberally. I believe the financial result of the banquet the other night was a disappointment to the friends of the institution. A sum of fifty thousand dollars was wanted to put it on its feet, but only eight thousand were forthcoming. Every effort had been made to whip up rich men with charitable leanings, and at least two millionaires were present, Messrs. Beit and Lionel Phillips, Hebrew Jews from South Africa, one of whom had the honor of being condemned to death by Kruger's High Court of Justice. Some hope was entertained that these financial magnates would between them give what was required, but the bad food and the bad speaking together were quite sufficient to spoil the most charitable temper.

For some years past the College of Physicians and the College of Surgeons have between them maintained a research laboratory in which much good work has been done. But the College of Physicians, though a powerful body which claims for its Fellows a monopoly of hospital appointments in London and in most of the large cities of England, is not a wealthy corporation and its financial situation has recently become somewhat critical in consequence of the fiscal exactions of a government hard pushed for money to carry on a war which is estimated to be costing now something like sixty thousand dollars an hour. The College has probably a good case in law, but has no funds for the expensive luxury of an action; it therefore prefers to pay, though, in the classic phrase of the immortal author of Pickwick, "sighing like bricks as it lugs out the money." But to do this it has to retrench in other directions, and it has accordingly intimated that it can no longer contribute to the support of the Laboratory. The sister College cannot, or will not, maintain it singlehanded, and unless the British Medical Association comes to the rescue the Laboratory is doomed. But it is extremely doubtful whether the Association will be in a position to help. If the scheme for its reconstitution of which something was said in a previous letter is carried into effect, the British Medical Association will have no money to spare for the furtherance of scientific research, for the whole of its income will be swallowed in the cost of the machinery of administration.

The College of Surgeons is a wealthy body, but it is governed by a coterie of hospital surgeons elected by the Fellows who are only a small fraction of the commonalty which consists of the Members. Over and over again determined efforts have been made to break up the College

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oligarchy and establish a representative form of government, but the President and Council rule like the gods of Olympus and let the heathen rage at the foot of the heavenly mountain as they list. From time to time some one professing to be a reformer is elected to the Council, and inexperienced persons look for the dawn of a new day. But it is with College reformers, as with the month of March, according to the proverb: they go in like lions but speedily subside to a lamblike tenderness for abuses. If the reforming conscience shows signs of reawakening, it is lulled to slumber again by a well-paid examinership or two. Immense sums of money have been wasted on bricks and mortar, and the management of the institution is in many ways extravagant. A surgeon whose name is a household word throughout the medical world is reported to be about to stand at the next election which will take place in a few weeks, and rumor credits him with the intention of issuing what will be virtually a wholesale condemnation of the policy of the present administration of the College. He holds that but for the existence of gross abuses, the College would be well able to maintain the Laboratory which is now threatened with extinction. If he carries out his threat, there will be what Sir Lucius O'Trigger calls "a very pretty quarrel," the issue of which would in all likelihood be the reconstitution of the College on a more democratic basis. But the College of Surgeons has been threatened with similar anathemas before now and nothing has come of them. The Council room of the dingy building in that old-fashioned legal rookery known as Lincoln's Inn Fields (where the fields had disappeared even in the spacious times of great Elizabeth) has a wonderful sobering effect on the most perfervid temperament. It needs an exceptionally strong man to put himself in opposition to the heads of his profession, and

Enterprises of great pith and moment
With this regard their currents turn awry.

Mr. Anderson Critchett who was recently appointed Surgeon-Oculist to the King has just retired from the staff of St. Mary's Hospital after twenty years' service. He inherited a great name, but he has proved himself fully worthy of it. In spite of the competition of Pagenstecher, to whom the Princess Christian has sent half of the British aristocracy, Mr. Critchett has had many opportunities of treating the eyes of the "upper ten." He is equally popular with his own profession, and with the higher Bohemia of artists, actors and what a well-known peer calls "writing fellows." He is a sayer of good things as may be gathered from the following story which I find in the *St. Mary's Hospital Gazette* for this month: A man having been jambed in a traction engine was brought to the hospital and admitted. As he was suffering from diplopia, Mr. Critchett's advice was sought. Discovering a paralysis of one of the ocular muscles, he gave him large doses of iodide of potassium. The house surgeon wished to try galvanism. After a few weeks the paralysis was cured, and the diplopia had vanished. The house surgeon asked Mr. Critchett which treatment he thought had cured the diplopia. Mr. Critchett said, "I think we might cry 'honors easy,' for I took him by assault and you by battery."

TRANSACTIONS OF THE FOREIGN SOCIETIES.

French.

PRIMARY SUTURE OF NERVE-TRUNKS AND THEIR FUNCTIONAL RESULTS—CEPHALALGIA IN NEPHRITIS—MASSAGE AND MOVABLE KIDNEYS—INTESTINAL WORMS AND APPENDICITIS.

REYNIER, at the Société de Chirurgie, May 1, 1901, said that contrary to the usual opinion he had become convinced that nerves are susceptible of early suture and very prompt union and restoration of function. Evidently an embryonal tissue formation occurred between the cut ends of the nerve, which did not materially interfere with the function in any way at all. In 1894 Monod reported a patient in whom he had sutured the radial nerve at once and in a few days had found that there was no loss whatever of the motor functions in the extensive group of muscles. In a recent case he had sutured the external popliteal nerve and demonstrated that the sensory functions were hardly interfered with a few days afterward and a month later the motor functions were shown to be normal under electrical reaction tests.

WALTHER in the discussion desired to report a curious observation of his own. An automobile conductor had received a severe sprain of his wrist which soon showed injury of the radial and median nerves. There were sensory and motor damage over the distribution of each and soon the muscles began to atrophy and other trophic symptoms appeared. The joints became rather stiff. This continued with hardly any change, except perhaps a slight improvement for about eight months. At this time an amelioration occurred of such a character as to suggest that union and repair in the torn nerves had taken place. Fourteen months after the accident there was tenderness over the median nerve, but the muscles had regained most of their action although not their strength and the anesthetic zones had almost vanished.

QUÉNU said that Reynier had stated that the primary suture of nerve-trunks can be followed by immediate restoration of motor function. In the instances upon which he founds his opinion, it is possible that the nerve gives off branches proximal to the point of section, which then vicariously take up the function at once. In his own experiments fifteen years ago upon animals he has again and again obtained primary union of the nerve-ends macroscopically, but upon microscopical examination he found that, however good the union of the fibrous sheaths might be, the axis cylinders were not united, but their ends

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rather folded and bent over upon themselves and otherwise deformed. Upon the basis of such observations, frequently repeated he feels sure that Reynier's contention is not founded on fact, but has some explanation like the above of early division.

POIRIER argued that Reynier can not possibly have obtained immediate restoration of function beyond the point of division, because this is impossible in the nature of things. Even if it were practicable to place the divided ends of the axis cylinders end to end it would be impossible to avoid the distal degeneration.

RICARD like Quénu had often made observations as to nerve-suture in animals and, although he has often seen the damaged trunks grow together at once, he has never once had any restoration of motor action occur.

POTHERAL claimed that judicious massage and use of electricity are two therapeutic elements which hasten very materially the return of the nerve activities. In one of his patients eight months after accidental division of the median and cubital nerves, he had obtained decided recovery of function within three and one-half months after suture with primary union, by massage and electricity. In another patient he united the divided nerves within three hours of their separation and under electrical and massage stimulation had seen motor function return in three weeks. They had also absolutely checked any atrophy whatever.

RICHELOT reported the results of massage upon movable kidneys as advocated by Rosenthal. In a number of patients the pains and many of the other symptoms were seen to disappear. The number of applications varies from twenty to thirty and their effect is sometimes marvelous. The theory of their actions is that the pain and many of the other complaints in the displaced kidney are due to simple congestion inherent in the abnormal circulatory conditions. The massage properly carried out appears to dispel this congestion and therefore to relieve the symptoms more effectually than nephorrhaphy itself does sometimes.

GUILLAIN, at the Société Médicale des Hôpitaux, May 3, 1901, related in the name of Marie and himself an experience with the cephalalgia of chronic Bright's disease of the kidneys. The headache had been chronic and of very long standing and entirely resistant of all known means. Finally arguing that probably the pain might be due to augmented pressure of the cerebrospinal fluid, he made a lumbar puncture and withdrew about six cubic centimeters of fluid under high presssure so that it ran in a veritable jet. Several days have elapsed since this was done and the immediate cessation of pain at the time of the operation had continued so that the patient is much more comfortable than for a long time previously.

LE GENDRE stated that he, too, had seen several examples of the alleviation, not only of the headache but also of the myosis and insomnia in uremia due to the withdrawal of cerebrospinal fluid.

NETTER noted that the quantity withdrawn was very small and seemed to indicate that the pressure had been very greatly increased. Therefore a greater quantity could have been taken away with advantage. In children sick with meningitis as much as forty or fifty cubic centimeters can be withdrawn. Guillain in reply said that the small quantity of six cubic centimeters was taken only because they felt it was wise to stop the flow then.

TRIBOULET stated that Metchnikoff has recently shown that intestinal worms may be associated with appendicitis. In the presence of such an appendicitis coexisting with worms, one may ask, Is there not therefore a true and a false appendicitis? In a patient of his own who was finally afflicted with round worms there were all the regular and the classic symptoms of appendicitis, prostration, fever, nausea, vomiting, pain and tenderness at and about McBurney's point. There was also a tendency to a return of the symptoms at her monthly periods.

PIERRE-MERKLEN said that this patient was evidently suffering from a true appendicitis, because she had all of the subjective and objective symptoms with recurrences, especially fever vomiting and focal pain. The dependence of the recurrence upon the menstrual epochs was probably purely accidental by the circulatory activity and congestion. While the worms may have been the pathogenetic factor of the disease, it is highly likely that the appendix remains diseased and is suitable for a removal during an interval.

SOCIETY PROCEEDINGS.

AMERICAN MEDICAL ASSOCIATION.

Fifty-Second Annual Meeting, Held at St. Paul, Minn., June 4-7, 1901.

(Continued from page 927.)

GENERAL SESSION.

THIRD DAY—JUNE 6TH.

AFTER the acceptance of the report of the Nominating Committee, which presented the names of the officers mentioned last week (see MEDICAL NEWS, page 919) the regular order of business was proceeded with.

Vice in the Philippines.—Miss Susan B. Anthony, the President of the National Woman's Suffrage Association, and the Reverend Anna M. Shaw, of the Executive Board of the Association, were, by special privilege, allowed to address the members of the Association for five minutes, each, on the question of "Moral Conditions in the Philippines." They came from Minneapolis where a convention of the Woman's Suffrage Association was being held. They appealed to the Association to memorialize Congress in order to prevent the existence

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of vicious conditions in the Philippines, and preclude the possibility of the importation into the Archipelago of abandoned characters from civilized countries. Their proposal did not, however, reach the stage of a resolution and was not voted upon.

State and County Societies.—Dr. MacCormack of Bowling Green, Kentucky, then presented the following resolution which was adopted:

"*Resolved,* That this Association cordially indorse the plan proposed by the Committee of Reorganization for a uniform system of organization of State and county societies in affiliation with this body and the Secretary is hereby instructed to correspond with the officers of each State society and urge the adoption of such plan in so far as it may be applicable, and that he shall report to the next annual meeting the result of such correspondence."

This involves the reorganization of county and State medical associations on the line of recent work in New York so that membership in a local society includes membership also in the general body.

The Code of Ethics.—Dr. L. Duncan Bulkley, Secretary of the Executive Committee, presented a recommendation that a committee of three be appointed to revise the code of ethics. The question was considered so important that it was proposed to call the roll, in order to prevent any but delegates from voting. It was suggested, however, that the roll call would occupy all the time until adjournment would be necesssary, and so the matter was left over until the next annual session.

Annual Oration on Medicine.—Dr. N. S. Davis, Jr., of Chicago then delivered the annual Oration on Medicine. The subject was "Internal Medicine in the Nineteenth Century." An abstract of the address will be found in the MEDICAL NEWS, June 8th, page 889.

FOURTH DAY—JUNE 7TH.

Original Research Fund.—Dr. L. Duncan Bulkley of New York announced the gift by John D. Rockefeller of a fund of $200,000 for the prosecution of original research in medical science. The distribution of this fund is to be under the direction of Dr. William H. Welch of Johns Hopkins University, who is the Chairman of the Committee on Scientific Research of the American Medical Association.

Oration on State Medicine.—Dr. George M. Kober of Washington, D. C., then delivered the Oration on State Medicine. Its subject was "The Progress and Tendency of Sanitary Science in the Nineteenth Century." An abstract of the address will be found in the MEDICAL NEWS, June 8th, page. 894.

The Army Canteen.—The Committee on National Legislation reported favorably on the resolution for the presentation to Congress of a memorial asking for the restoration of the canteen in the army. This report was adopted unanimously and with great enthusiasm.

Dr. Judson Daland of Philadelphia, was appointed to represent the American Medical Association at the World's Congress on Tuberculosis to be held in London in July.

Reception to New President.—Drs. Marcy and Priestley escorted the new President of the Association, Dr. John A. Wyeth of New York, to the Chair. Dr. Wyeth thanked the Association felicitously for the honor they had conferred on him and expressed the hope that he would greet them all at Saratoga in the midst of a large and enthusiastic meeting of the Association.

The Session then adjourned to meet next year at Saratoga.

SECTION ON SURGERY AND ANATOMY.

THIRD DAY—JUNE 6TH.

Hemostasis in Amputation at the Hip-Joint.—Dr. John A. Wyeth of New York said that his method was first made public in 1890. He now has complete histories of 267 cases, which he presented to the Section under three groups, to-wit: (1) Neoplasms, of which 131 were sarcomata and 5 epitheliomata. (2) Septic infection, 94 cases, 16 deaths: 17 per cent. mortality. (3) Injuries, 36 cases 23 deaths, mortality 63.9 per cent. This is relatively high, most of the cases dying from shock induced by hemorrhage from the injury, which in most cases was that of car-wheels or similar great weights. In all of these cases he now uses a preliminary venous infusion of hot salt solution and feels that this procedure is of paramount importance, not only in these particular conditions, but in the face of all similar surgical emergencies. Whereas prior to the introduction of his technic the mortality was estimated at 64 per cent., it is now but 19.8 per cent.

Autoplastic Suture in Hernia and Other Ventral Wounds.—Dr. L. L. McArthur of Chicago said that this type of suture had been recommended for certain other operations, but had not to his knowledge been used for hernia. The strips are prepared as follows: On either side of the incision made in the internal oblique, bands which promptly roll up into cords about an eighth of an inch wide are cut from above down. If an ordinary Bassini operation be done, after the replacement of the sack, the wound more closely resembles a shoe just ready to be laced than anything else. To one of the sutures is now tied a bit of slender silk on a needle, and with this armature the autosuture is cast continuously to the outer angle of the wound. At the termination of the last stitch the remaining portion of the band is split. The end which still bears the thread is

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threaded once more through the tissue and then the two are tied together. This mode of terminating the auto-stitch is rapid and convenient. In a similar way the external oblique is closed, the skin incision being sutured as one pleases. The length of these ribbons varies from four to six inches. Their tensile strength is 17 to 20 pounds. Being fibrous tissue and elastic, it is not necessary for a continuance of their life that they should have a blood-supply, for they live normally by osmosis. Histology appears to show, after a series of most careful sectional examination in animal tissues and in one case of death in a man where this technic had been used, that there is a definite continuance of the life of the tissue. However this may be, in the seventeen cases in which it has been used there had been no instance of post-operative rise of temperature. If this be shown to be a continuous factor, it will prove that this rise which is so constantly present after closing wounds with the ordinary absorbable suture, is due entirely to the dissemination of their constituents through the system.

Dr. Powers of Denver has used the method and cordially endorsed it. Dr. Eisendrath of Chicago tried it with excellent result in a boy of ten. He does not believe that the fears of its author are grounded, namely, that the muscle is not strong enough to give suitable ribbons in women and children. Dr. Eastman of Indianapolis said that without wishing to pick flaws in a technic which was so new and interesting, he desired to ask two questions: Is it not difficult to get sufficient length of ribbon, and, again, does not the external oblique frequently tear during the manipulation? In closing Dr. McArthur said that he had not encountered these difficulties. In adult men, where alone he recommended the technic, he had had no difficulty in getting sutures six inches long.

A New Method of Skiagraphic Diagnosis for Renal and Ureteral Surgery.—Dr. L. E. Schmidt and Dr. G. Kolischer of Chicago presented this paper. Their efforts had been crowned with success, largely because of the very flexible and absolutely harmless wires of lead and antimony which they had introduced into the ureters. This composition is particularly soft and flexible and casts a beautiful picture in skiagraph. Ureters, which by cicatricial distortion and various forms of dilatation of the pelvis are deflected from their normal course, are accurately shown by this process. In the large dilated pelves of hydronephrosis, for example, the wire seems invariably to follow the wall of the sack in such manner as to give a very fair indication of its size and position.

Prostatotomy vs. Prostatectomy for Prostatic Hypertrophy.—Dr. Ramon Guiteras of New York, passing rapidly over the various measures which are still somewhat in vogue in Europe for the relief of this condition, but which here have been abandoned, said that within the last few years such advances had been made toward perfecting prostatotomy and prostatectomy that no progressive surgeon who aspired to do any genito-urinary work could afford to be unfamiliar with both of them. He advocated what might be called the vesico-rectal method. Two fingers placed in the rectum afford the most certain aid in doing rapid work. In conclusion, he said that, while in general he might be considered to favor prostatectomy, the whole problem was too grave a one upon which to dogmatize. There were many patients whose condition was such as imperatively to contra-indicate the radical operation. There were a large number in whom the distinctly palliative treatment of Bottini was the only justifiable course; the unfortunate delays which as yet are invariable in all prostatic cases create a class of feeble old men on whom no operation is justifiable.

Prostatectomy.—Dr. Eugene Fuller of New York, said that the quasi-moral environment of these cases is the most important factor which the progressive surgeon has to struggle against. In almost every case objection is made to any form of radical operation because of the patient's extreme age. Under proper surgical management, the mortality of prostatectomy is not over 8 per cent. or 10 per cent. The argument in favor of the Bottini is that it is easy of accomplishment; any one with some experience in the manipulation of urethral instruments being able to perform it, while prostatectomy calls not only for a well-trained surgeon, but one especially skilled in this work.

Permanent Catheterization.—Dr. J. R. Eastman of Indianapolis embodied in this paper a report of fifteen cases in which the catheter had been retained for from two to sixty days, with a history of the results obtained. He submitted the following details: (1) The traumatic urethritis was not marked enough to do harm; in the sixty-day case, the catheter was not at any time removed. (2) The catheter best suited for this work is of large size and of soft rubber. (3) Boric-acid solutions are not satisfactory for irrigation, as the crystals tend to occlude the lumen of the tube. (4) The catheter must be introduced just within the bladder. (5) It gives absolute rest to the part—a sovereign aid in treatment.

Fallacies of Treatment in Urethral Diseases.—Dr. Robert H. Greene of New York said that from a series of thirty cases of prostatic hypertrophy which had been subjected to the most careful histological study by Dr. Harlow Brooks and himself, he feels certain that the recent views expressed by Cienkanowski, that the prostatic tumor is of inflammatory origin rather than cystoadenomatic, is correct. If it be eventually shown that gonorrhea has any etiological bearing on this disease of old age, it will awaken broad interest among the young.

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Perineal Prostatectomy.—Dr. Parker Syms of New York believes that this will be the operation of the future. He exhibited a very ingenious device consisting of a flexible rubber tube with a bulb at one end. A measured quantity of water dilates this bulb 2½ inches. Collapsed, it is introduced into the bladder through a central perineal incision; it is then filled with water and drawn down by an assistant. This most beautifully, and even in difficult cases, brings the prostate into clear view. He invariably removes the left lobe, then the middle and last the right. . At the end of seven days the patients are usually able to sit up. He passes steel sounds every third day for a period which gradually increases. In closing he said that the mortality would be much lower when the profession knows as much about this operation and acts as promptly as it does in appendicitis.

Dr. Robert H. M. Dawbarn of New York, in opening the discussion of this genito-urinary symposium said that he preferred to leave the discussion of the papers to others. He thought the Section would be more interested in seeing a device for bladder drainage than in hearing him talk. It consisted of a douche-bag, some rubber tubing and a T-tube. The principle is that of intermittent siphonage which was applied to dentistry twenty-five years ago by Snow of Buffalo. One of the most unique and ingenious points in the whole apparatus is the establishment of the siphon by the simple casting of a single knot in the drainage tube. The method keeps the bed as dry as the De Pezzer tubes or the Kader method or the plan of Blasucci. Another advantage which it has over the more complicated and somewhat expensive devices is its extreme cheapness. One can easily wash out the thick, stringy muco-pus, slime and calcareous material from these filthy bladders which so often give trouble by other methods. Three distinct things can be accomplished by this ingenious bag. (1) The bladder is continuously drained, the time which the nurse has to give to the apparatus being simply long enough to fill the bag once every six hours; (2) the bladder can be so painlessly washed out that it has repeatedly been done without awakening the patient; (3) by interposing a flask in the tube leading from the bladder absolutely uncontaminated specimens of urine can be obtained for examination.

Dr. Rokey of Portland, Oregon said, that not enough attention has as yet been devoted to the prostate. Why is it that while indefatigable researches have been made in the diseases of women, many of which have terminated in a happy liberation of the young and the old from previously hopeless conditions, old men should be left neglected to die a hopeless and horrible death? He prefers the recto-vesical technic and his mode of procedure is practically analogous to that of Guiteras.

Dr. Andrews of Chicago indorsed the autosuture saying that its chief characteristic was the absence of post-operative temperature. Prostatectomy in the mid-perinum is the operation of the future. While he regards Syms' apparatus as of great value, he believes that Ferguson's prostatic retractor is perhaps in some respects better. It is a sort of spoon, about No. 25 French in size. It is inserted via the penile urethra, rotated through 180 degrees, and is then thrown up against the pubes. This at once accomplished two things, i. e., it drags the prostate into view and, by putting considerable tension on the tissue, avoids hemorrhage.

Dr. McGowan of Los Angeles believes that Dr. Greene's evidence is of very little value. The hypertrophic prostate is not of inflammatory origin.

Dr. Guiteras in closing said we shall soon, it is hoped, have not only a good technic, but an interest awakened in this important work which will lead to a recognition of the fact that early operation and radical operation is as much to be desired in these cases as it is in appendicitis.

Dr. Fuller in closing said that the Chinese and Asiatics in general are exempt from prostatic hypertrophy, although it is well known that probably more than all other nations they suffer from venereal disease. The bladder does regain tone and there is hope in the majority of these cases.

Dr. Greene said that he did not expect his theory to be accepted without marked opposition. If correct, however, it would effect very great changes in the treatment of urethritis, and probably develop a new and perhaps less radical operation than prostatectomy.

Pneumectomy and Pneumotomy.—Dr. J. B. Murphy of Chicago defined chest surgery as an opening of the mediastinal or pleural cavities. Until the present time but little progress has been made in the surgery of the chest, because of the extraordinary dangers which have attended all work in this region. The dangers he classifies as follows: (1) Primary pneumothorax, (2) primary hemorrhage, (3) secondary pneumothorax, (4) sepsis. The effects arising in primary pneumothorax are probably absolutely mechanical. We must remember that the mediastinal septum is not a solid body and that with a decrease of the atmospheric pressure on the uninjured side there will naturally be a bulging from the injured area. How this can best be overcome is probably answered by the immobilization of the mediastinum by clamps on the hilum of the lung which can thus be retracted, or by insufflation. In perfecting their insufflation apparatus, Matas and Parham have done a vast work for the surgery of the chest. The next difficulty to be encountered and overcome is hemorrhage. Of special danger is the hemorrhage from the internal mammary ar-

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tery which gives a more rapid flow than any other vessel of the third magnitude. There are three important dangers from hemorrhage from the tissue of the lungs as follows: (1), if the azygos vein be torn, air embolism is probable; (2) the subclavian, but this occurs only in apical tuberculosis; (3) rupture of the right auricle in kindred conditions where it is known often to be adherent to the lungs. Secondary pneumothorax resulting either from a re-opening of the cut or a dividing of a bronchus is best overcome, together with the hemorrhage, by the angiotribe. The closure of large bronchi is most difficult, although it is to be believed that here again this instrument will come to our help. The sepsis arises from two sources. It may be primary-induced at the time of the operation, as in any other wound. It may at this time be caused by the breaking of a focus of pus. It may arise secondarily from infected bronchi.

Foreign Bodies in the Trachea and Bronchi.—Dr. De Forest Willard of Philadelphia said that for removal of foreign bodies from the air passages inversion of the child and succussion are dangerous unless the means for immediate opening of the trachea are at hand, as lodgment in the larynx may quickly suffocate the patient. A careful physical examination, with study of all the symptoms, is absolutely essential to determine their location and the lung condition. A low tracheotomy should be at once performed, a large opening made, the sides of the slit being kept wide apart by silk stitches. Through this opening expulsion is common and is ordinarily to be expected. If the object cannot be secured through the trachea, an opening into the chest and incision of the bronchi themselves is only justifiable when an artificial apparatus, like the Fell-O'Dwyer, is at hand, and oxygen is available. Without these accessories, combined with the skill of a cool, cautious operator, the search for a foreign body through the chest walls is attended with such dangers that it is ordinarily unjustifiable. Since the introduction of the Parham-Matas instrument many of the dangers of lung surgery have been removed.

Treatment of Empyema.—Dr. J. H. Dunn of Minneapolis said that early in the disease, except in the case of certain contra-indications, one or more should be exsected, but there is little use of doing this unless a large opening is made. At least 2¼ inches of bone should be removed. Immediate irrigation is to be deprecated. Simple drainage and wiping out is sufficient. Probaby there are no indications for irrigation at the time of the operation and it is very doubtful if at any time these exist. To hold the passage patent a light gauze packing is found to be much better than a rubber tube, which is not only apt to drop in or out, but sometimes provokes the formation of a fistulous opening which is difficult to close. In these cases subsequent infection should be most scrupulously guarded against. Estlander's operation is giving place to Schede's in which the greater part of the chest-wall is removed and the skin allowed to fall in upon the retracted lung.

In the discussion of these papers, Dr. Bernays of St. Louis said that he hoped the time was not far distant when the surgeon would have the care of a great many cases of pulmonary tuberculosis which now fall to the general practitioner. They will naturally be those in which a mixed infection has occurred.

Dr. Dunn's observations as to the value of bacteriological examination of all pleural fluids is very important. He agrees that irrigation is ill-advised here as elsewhere, and believes free drainage to be all requisite.

Dr. Barbat of California said that he had had some success with lung surgery for which he had devised an insufflator similar to Parham's. He passes the air, however, through hot water which not alone elevates its temperature and moistens it, but renders it sterile as well.

Dr. Wills of Los Angeles said that none of the Eastern members had one-half the interest in lung surgery that is felt by the surgeons of the Pacific coast. It is time that some active steps were taken to stop the alarming influx of hopeless tuberculous patients in regions where, at least until recently, the tubercle germ was practically unknown. If they must be sent from the East, let it be before they are in a hopeless condition.

Dr. W. W. Keen of Philadelphia finds that a pair of curved Hagedorn needles passed in through a part of the lung and out again accomplishes the formation of sufficiently dense adhesions within twenty-four hours. In a case of sarcoma of the chest-wall he had successfully resorted to the expedient of sewing the lung fast all around the large thoracic opening to prevent primary pneumothorax.

Dr. Means of Columbus, Ohio, cited two cases of thoracic surgery. In one of them, a shot-gun wound, the pleural cavity was filled with a mixture of clothing and newspaper. After hearing what Dr. Murphy had said regarding the deviation of the mediastinal septum and its mode of prevention, he thought that this very fact which he had believed would be fatal, had by steadying the septum actually preserved the patient's life.

In closing the discussion, Dr. Willard spoke of secondary emphysema which is pretty sure to develop in the event of failure to close a bronchus. This can usually be successfully accomplished with a fine staphylorrhaphy needle. This emphysema is progressive and may cause death. Because of the possibility of this complication it is probably better to drain than to close. Adhesions should always be produced prior to opening a cavity which would otherwise communicate with the pleural cavity.

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FOURTH DAY—JUNE 7TH.

Indications for Operation in Calculus, Nephritis and Ureteritis.—Dr. C. L. Leonard of Philadelphia said that within a very recent time the X-ray has shown the unsuspected relative frequency of ureteral calculi. It has also demonstrated that the writer has an extraordinary tolerance for these concretions. They appear in many cases to dwell within the lumen for years without causing an ache or a pain. Now that we have a means of keeping the stones under immediate and accurate observation, fewer exploratory incisions will be necessary. That this method is a sure one has been shown by observation on 165 cases where the prognosis made by the X-ray was either correct or was shown to be faulty because of defective technic. This has been a means of vastly improving it. Over 50 per cent. of the calculi have been found to be in the ureters. The urine, which till now has always been thought to be of paramount import, has been shown to have a very variable value. A large kidney is usually looked upon, in the absence, of course of neoplasm, as a favorable sign and one contra-indicating operating for a ureteral stone, for it has the energy to drive the stone before its larger volume of urine. A small kidney, on the other hand, is in a measure an evil omen, for with no *vis a tergo* to dislodge it the calculus will very likely have to be removed. It is of particular import that efforts be made to clear the urine of as much pus as possible prior to operating. Multiple calculi do not always indicate operation. Inter-ureteral operations have been much advanced by the X-ray and they are perhaps best practised by a special technic through a primary suprapubic cystotomy. Finally, from the great class of cases where conservatism is the best treatment, the X-ray has given us a certain method of separating those in which immediate operation is indicated.

Acute Infection Cholangitis and Cholecystitis as a Complication of Gall-Stones.—Dr. D. N. Eisendrath of Chicago read this paper. In the normal state, the ducts, beyond the ampulla of Vater are sterile. Probably the bile inhibits the growth of the colon and typhoid bacilli. Infection is probably the causation factor in stone formation. The effect on the hepatic cells is to inhibit their normal bactericidal power.

Dissecting Abscess of Abdominal Wall.—Dr. J. B. Bullitt of Louisville, Ky., reported at length a case in which six weeks after the subsidance of typhoid fever there developed a rapidly spreading abscess which proved to be the abdominal wall.

In the discussion, Dr. Smythe of Memphis reported a case which illustrated the extent and fatality of gonorrheal infection. To a surgeon of the Southern Mississippi Valley, the discussion on gall-stones had been particularly interesting. Jaundice seems but rarely to be associated with gall-stones. He always irrigates the bladder with silver nitrate after removal of stones and, if the walls are not too diseased, he closes it by a special technic.

Dr. McGowan of Los Angeles asked Dr. Leonard how positive he could be in diagnosing renal calculi with the X-ray. He cited two cases of so-called burns which had been under his care. In each he was obliged before any progress began, to excise the poisoned tissue just as thoroughly as though it had been neoplastic. One healed in a year, the other in eighteen months.

Dr. Crane of Vermont said that the depth of the shadow is dependent on the atomic weight. Uric-acid stones, for example, do not weigh as much as those of calcium oxalate and the shadows vary resultingly.

Dr. Davis of Omaha has experimented to find the nature of the nucleus of gall-stones. His findings lead him to corroborate the statement that their nuclei are almost always clumps of germs. He protested against the closure of the bladder; it should always be drained till all signs of infection have passed away.

Dr. Dunsmore of Minneapolis wished to emphasize the importance of "clinical sense." He thinks the gall-bladder can often be closed to advantage.

Dr. Rodman of Philadelphia said that in his city the X-ray had been so perfected that its findings were now considered more reliable than the "clinical sense" of anybody. Burns no longer occur in the practice of experienced operators. This is true even when the X-ray is used on the face and the eye.

Dr. Lemon of Milwaukee said that the question of dissecting abscesses of the abdomen after typhoid was important for he believed them to be more frequent than the literature would seem to show. In his own experience were two cases.

Dr. Bloodgood of Baltimore spoke of the relation of gall-stones to pancreatitis. Opie has shown that the anatomy of the pancreatic and biliary ducts and their relation to each other and to the duodenum is a very important factor in the etiology of both these diseases. It teaches a very important lesson as to the desirability of always draining the gall-bladder rather than closing it. If a small stone partially obstructs the papilla of Vater, some bile will be forced into the pancreas. Since the papillary mucous membrane is normally septic, this bile is infected. We then have those conditions present which are known to produce acute hemorrhagic pancreatis, blocked ducts and infection.

Dr. Porter of Fort Wayne believes that the colic is not produced by the passage of stones, as is usually supposed. The pain and the jaundice are both due to infection and inflammation.

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Dr. Leonard in closing said that he wished to impress on the Section the fact that the X-ray, with its power of positive diagnosis, has introduced into the surgery of renal stones a conservative element which would and could not otherwise exist. His experience leads him to believe that burns, so-called, are not produced by the ray, but by an unknown factor. He has had two severe burns himself and yet he rarely if ever puts his hand in the line of the ray. Whatever it is that does the burning seems, in his case at least, to have been around the tube. A grounded screen has afforded him protection of late.

Dr. Eisendrath in closing said that Mijake, a Japanese investigator, has shown by a series of experiments on dogs that neither infection alone nor obstruction alone will cause the development of stone, but in the presence of each calculi are almost certain to form.

Dr. Thompson of Scranton, Pa., showed the head and part of the shaft of the femur of a man, aged sixty-two years, on whom he had performed Gillette's operation for non-union. Making a bone-flap, which consisted of the great trochanter and a part of the shaft, he drove a solid-silver nail directly toward and to the head of the bone. A smaller nail held the flap in place; the wound was closed and a plaster spica applied from axilla to toes. In six weeks the man walked without a limp.

A Simple Operation for the Treatment of Hemorrhoids.—Dr. J. R. Pennington of Chicago read this paper. These tumors are simply angiomata. The indication is to remove them *in toto* with the least possible destruction of normal tissue. He slits the mucous membrane over each tumor, enucleates and excises it. A stream of salt solution courses over the site of the operation while this is being done. These cases recover in an unusually short time; in four to five days they are usually out of bed and at work.

SECTION ON PRACTICE OF MEDICINE.

Third Day—June 6th.

Modified Typhoid Treatment.—Dr. T. B. Greenley of Meadow Lawn, Ky., said that little drug treatment is needed in typhoid fever. He has used the Woodbridge method of treatment, but does not believe in its efficacy. The drugs he has found most satisfactory are quinine and acetanilid. He employs one grain of each every three of four hours. In severe cases every two hours or even every hour. Baths or spongings should be directed. Turpentine is the best remedy for tympanites. In fact, in Dr. Greenley's experience, it is almost a specific. Turpentine is an excellent prophylactic against hemorrhage. This is true, not only in the severe hemorrhage of the third week, but also in the hemorrhages from the nose in the early stages, if these are giving inconvenience. Under these remedies typhoid fever has decreased in fatality. The disease has lost most of its terrors even in conditions where good nursing is hard to obtain, though of course nursing is the most important element in the care of these cases.

Medical Shock.—Dr. O. T. Osborne of New Haven, Conn., read a paper on this subject. He said that the term heart failure has fallen into disrepute. It is true that in many cases the term was used to cover the ignorance or carelessness of physicians. There is, however, a set of symptoms often serious, sometimes fatal, with failing heart as a prominent symptom, in which no sufficient organic lesion can be found to account for the patient's condition. These symptoms are not unlike those which develop in what is known as surgical shock. The underlying basis of the condition is evidently a disturbance of the vasomotor mechanism that allows diversion of the blood into paralytically dilated veins and so permits reduction of blood-pressure. We need a term for these conditions when no direct cause can be pointed out in some definite organic change.

Definition of Medical Shock.—Dr. Osborne proposes to call all cases medical shock in which the prominent symptom is a failing heart without any change of the muscular apparatus or valvular mechanism to account for the failure. That such cases occur, every practitioner knows. The main symptoms are a rapid, excited heart, with decreasing energy, great loss of heat from dilatation of the peripheral vessels as the result of paralysis of the vasomotors, weakness and faintness, with pallor because the blood is mainly contained in the large abdominal veins. Blood-pressure is so much reduced that the heart-muscle itself suffers in its nutrition because of defective circulation.

Analogies with Surgical Shock.—In surgical shock the symptoms are prone to develop after injuries to special parts—the head, the abdomen, the testicles, important nerves and the like. Medical shock is apt especially to develop during affections of these same parts. Pain is an important causal factor in the production of surgical shock. It seems to be also in the production of medical shock. This pain need not necessarily be very severe. In weak patients even slight pain may cause serious reflex symptoms. The more or less imaginary pains that hysterical or neurasthenic patients suffer from may well produce as much medical shock as if they really suffered all the pain they imagine. Pain reflexly produces vasomotor paralysis and consequent reduction of blood-pressure. This soon adds to the heart weakness.

Medical Shock in Typhoid.—This condition of progressively failing circulation is often seen in typhoid fever. The heart is weakened

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by the toxins of the disease. The irritation of the intestinal mucous membrane causes active and passive congestion in the abdomen that still further disturbs the circulation. If tympanites comes on to add a mechanical factor of interference with the circulation, heart and vessels, it can be readily imagined that symptoms of failing heart may develop.

Treatment of Medical Shock.—This must be like that of surgical shock. As absorption from the stomach is interfered with by the failure of the circulation, the drugs indicated must be given hypodermically. Strong stimulants must be employed and they should be administered in full doses. Absorption even from the subcutaneous tissue is slow. This accounts to a large extent for the tolerance for large doses of drugs of patients suffering from such conditions as delirium tremens. Medical shock and heart failure are practically convertible terms, but we seem to have in the analogy with surgical shock some rational basis for the introduction of the new term.

Multiplication of Terms.—Dr. Lillie of St. Louis said that the new term seems to add nothing to our realization of the conditions that exist. The word shock should not be used unless some suddenly developed condition is implied. The introduction of the new term seems scarcely justified since it would only lead to needless multiplication of terms.

Medical Shock Clinically.—Dr. James J. Walsh of New York said that the term medical shock would be helpful to the practitioner and student of medicine, because it assumed the existence of a medical condition analogous to surgical shock, that is, a failure of function without pathologic lesion to account for it. Since heart failure has been tabooed by boards of health there has occasionally been felt the need of a term to describe certain cases of failure of circulation without serious organic involvement. Dr. Osborne's term is illuminative, too, since it suggests the need for prompt and effective medication. Sometimes these cases are allowed to proceed without any realization of how suddenly they may become serious and even fatal. The necessity for hypodermic medication is an important practical point, for at times, though sufficient stimulant drugs have been given they have failed of absorption and the condition continues to grow worse.

Abuse of Heart Stimulants.—Dr. Kelsey of Minneapolis said that sometimes, when it is known that patients will eventually need heart stimulants, the administration of these remedies is begun early in the disease. Of course, it is always a serious question in infectious and especially exhausting diseases to know when to begin the employment of stimulant medication. Probably more harm than good is done, however, by beginning before there is some absolute indication for them. Their use by anticipation of symptoms only serves to make the individual accustomed to their action and so detracts from their effect when they are really needed. This mistake is often made and with the best intentions in the world. Dr. Kelsey detailed a recent case in which heart stimulants failed to produce the desired effect and the reason seems to have been their persistent use in the case for some time before the development of any critical symptoms.

Weak Heart without Lesions.—Dr. Webster of Chicago said that there is often a condition of weakness of heart without distinct lesions. The valvular apparatus is unaffected and the muscle seems healthy, yet the heart acts poorly. Often this is due to toxic conditions and the resulting failure of nutrition. In these weakened states reflex nervous inhibition is especially active. Dr. Webster once saw a rabbit about to be experimented on die from sheer fright. The animal was literally scared to death. The heart was found contracted and practically without blood. The large abdominal veins were found widely distended and filled to repletion with blood. The animal had bled to death into its own abdominal veins. This condition is not impossible in human beings. It is due to disturbance of the vasomotor functions and consequent paralytic venous distention. That it is analogous to shock under some circumstances cannot be denied.

Spread of Tuberculosis.—Dr. E. Napoleon Boston of Philadelphia read a paper discussing the spread of tuberculosis because coughing caused a disseminating of tubercle bacilli through the air. This is perhaps not so dangerous as has been thought, but is certainly an important method for the spread of virulent infectious material. Experiments have shown that the dust of sanatoria for consumption does not always contain tubercle bacilli and that those found are often inactive. Flügge does not think that dried sputum of tuberculous patients is virulently contagious. The bacilli do not long withstand drying. The bacilli contained in recent moist sputum are virulent and those on the minute droplets of sputum ejected during coughing or sneezing or even talking may convey the infection.

Experimental Investigation.—Solution of cultures of Bacillus prodigiosus have been placed in the mouths of patients and after some time cultures of this microbe could readily be obtained in the room. Curry found that when a plate was placed six inches away from tuberculous patients it almost invariably became infected during coughing spells. A single exposure of the plate was sufficient to infect it in the early morning hours. Many more colonies were found in plates exposed in the mornings than in the evenings. Ravenel showed that tubercle bacilli were deposited on all of a series of pieces of wood placed in the bottom of a nose-bag used by tuberculous cattle. These cattle were not severely infected, for one of them was alive two years later.

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Danger from Food.—There is no doubt that coughing in a refectory will easily and frequently lead to the deposition of tubercle bacilli on food. Dr. Baston has demonstrated this by employing a mask. This is worn only for an hour a day and that hour the one in which least coughing occurs in each individual case. Despite this precaution the plate is found to have tubercle bacilli deposited on it. In some cases the bacilli are on the droplets of sputum; in others in the thin film spread over the plate.

Protective Influences.—Talking above a whisper always leads to the ejection of bacilli. Whispering does, however, not cause bacilli to be given off. Men with mustaches were found not to give off bacilli. When, following a suggestion of Dr. J. Solis Cohen of Philadelphia the mustaches were waxed, there was no difficulty in demonstrating the exhalation of bacilli. These observations especially serve to show how few protective precautions would be needed to prevent the spread of bacilli broadcast as at present.

Practical Applications.—Dr. Boston is of the opinion that this method of collecting and examining bacteriologically the atomized exhalations from the mouth may be of assistance in the diagnosis of tuberculosis in cases where the sputum can not be obtained. In insane patients, for instance, who refuse to allow the collection of sputum, a culture plate might easily be placed near them. In children in whom tuberculosis of the lungs is suspected at an age before expectoration has begun, the placing of a culture plate before the mouth during an attack of crying may easily lead to the detection of the bacilli if they are present in the mouth secretion.

Prophylaxis in Other Diseases.—It must be remembered that the atomized secretions of the mouth may easily convey other diseases besides tuberculosis. There is no doubt, for instance, that in diphtheria the Klebs-Loeffler bacilli may be ejected from the mouth, just as the tubercle bacilli in tuberculosis. In cases of tonsillitis that are non-diphtheritic, streptococci and other pyogenic cocci may be scattered about. We do not as yet know the germ of scarlatina, but there seems no doubt that an active focus of the microbe occurs in the throat and that it too may be scattered abroad by coughing or talking. Surgeons who have any infective process in their throats may easily introduce infective material into a wound during the course of an operation. Fortunately most of the bacteria contained in the mouth in health are not infectious. The use of a gauze mask is, however, an excellent precaution and it would undoubtedly lower the number of infections that take place during operation, most of which come from some utterly unexplained source.

Diphtheritic Cultures from Throats.—Dr. M. H. Fussell of Philadelphia contributed a paper on the "Practical Value of Cultures From the Throat" which was read by Dr. Webster of Chicago. Dr. Fussell said that for the purposes of therapeutics and prophylaxis of other people, prompt diagnosis is needed in no disease more than in diphtheria. The early administration of diphtheria antitoxin practically assures a cure. Early segregation means the prevention of the spread of the disease. We now know that the Klebs-Loeffler bacillus is pathogenic for diphtheria. We know too that there are a number of exudates that occur in the throat which are due to some other microbe than the Klebs-Loeffler bacillus and that diphtheria may occur in regions apart from the throat and that the diphtheria bacilli may produce constitutional symptoms without throat exudate. In a word, we are unable to decide clinically on the existence, or non-existence of diphtheria, and must depend on the bacteriological test.

Differential Diagnosis.—Baginsky of Berlin first claimed that diphtheria could be diagnosed with absolute certainty only by taking cultures from the throat. His opinion in this matter met with a good deal of opposition at first. There is no doubt, however, that exudates having all the clinical characteristics of true diphtheria pseudo-membrane may occur in the throat without the presence of diphtheria bacilli as a causative agent. On the other hand, no clinical description can be given that will enable the practitioner to pick out the cases that are not diphtheria from those which are virulently diphtheritic. Our only resort, therefore, is the bacteriological diagnosis.

Latent Diphtheria.—Many years ago Jacobi of New York, with wonderful acuity considering the conditions of our knowledge at the time, declared that more diphtheria was walking the streets than was confined to beds. There is no doubt that very many cases of sore throat for which patients receive very little treatment are really due to diphtheria. It is the presence of these cases in a community that keeps the disease alive and continues to spread it. As a rule, physicians do not care to even hint at diphtheria unless there is a severe illness. Hence the question of taking cultures from the throat in all cases of sore throat meets with no little opposition from doctors. In Dr. Fussell's own district the practice of taking cultures has been discontinued to a large extent, because doctors do not wish to inconvenience themselves nor to put their patients to the inconvenience of confinement to their houses until diphtheria bacilli have disappeared. However, there is absolutely no other way of protecting the community.

Patients' Own Benefit.—Besides benefiting others, patients themselves are benefited by the practice of taking cultures. True diphtheria may begin with very few symptoms, be clinically unrecognizable for several days and

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then light up with a virulence that makes it fatal almost before anything can be done. On the other hand, tonsillitis may be very severe, simulate diphtheria very closely, give the family great uneasiness, and yet prove to be non-diphtheritic. Even mild diphtheria should be treated at once by diphtheria antitoxin. Severe tonsillitis, non-diphtheritic in character, will not receive the slightest benefit from the antitoxin.

Supposed Pathognomonic Signs.—It has been claimed at times that the diagnosis of diphtheria could be made from the character of the exudate in the throat. It is sometimes said, for instance, that non-diphtheritic membrane can be detached from the mucous membrane without leaving a bleeding surface underneath it. In diphtheria the exudate is hard to remove and always leaves an ulcerative bleeding patch. Dr. Fussell detailed some cases in which these supposed pathognomonic symptoms proved misleading. Particularly is it true that non-diphtheritic exudate may cling very pertinaciously and leave a small ulcer when detached. Dr. Fussell suggests that each physician should have a small laboratory of his own at home in which these cultures can be made, unless the Board of Health of his district will do the work for him.

Persistence of Diphtheria Bacilli.—Dr. Delancey Rochester of Buffalo said that it was surprising how persistently the diphtheria bacilli cling to the throat, after they have once secured lodging there. As long as the diphtheria bacilli remain there is danger of spreading the disease. Patients should not be permitted to associate with other people merely because they have no clinical symptoms, unless it can be shown that there are no diphtheria bacilli in their throats. To demonstrate this the taking of cultures is absolutely indispensable. For the removal of bacilli from the throat, Dr. Rochester used to employ Loeffler's solution. Little patients objected to it so much that he used it on his own throat and found it extremely painful. Since then he has not employed it.

Nitrate of Silver Applications.—Dr. Rochester has found the application of a solution of nitrate of silver, stronger according to the age of the child and its insensitiveness, an effective measure for the early removal of bacilli from the throat. As is well known, nitrate of silver produces very little inconvenience. This is applied once a day for some days and a reduced solution of hydrogen dioxide is directed to be used every three hours. This method of treatment soon disposes of bacilli that may happen to be present in the throat.

Milk and the Spread of Diphtheria.—Dr. Newton of New Jersey said that in a recent epidemic of diphtheria all the cases occurred in families who were taking milk from one dairy. The health inspector made an investigation at the dairy and found that two of the employees, who had suffered a short time before with some slight clinical symptoms of throat trouble, still harbored bacilli in their throats. He even found the probable source of this diphtheria was the handling by these men of bottles collected from infected cases. These bottles were not washed at once, but were allowed to collect for some time, until a sufficient number was obtained to make their cleansing by steam more inexpensive than if each group of bottles were disinfected when collected.

Precautions Taken.—As soon as the dairy was closed no new cases of diphtheria occurred. The habit of collecting bottles from houses infected by diphtheria, or any other contagious disease was forbidden. Beyond this it was required that whenever throat symptoms, no matter how simple in character, developed in any of the employees, the individual should not be allowed to handle the milk, unless after bacteriological examination it should be determined that the throat affection was simple and non-contagious. It seems probable that a good many more epidemics are spread by neglect in dairies than is usually thought. We have come to realize in recent years that typhoid fever and scarlet fever, as well as diphtheria, are apt to follow certain lines of milk distribution. The employment of proper precautions will prevent this.

Cold and Bacteria.—Dr. Newton said that this epidemic of diphtheria would probably have been much more widespread and virulent, but for the fact that all the milk collected at this dairy is cooled to 40° F. as soon as possible after collection. At a temperature of 40° F. very few bacteria propagate. Diphtheria bacilli fail to grow almost completely. The fact that some cases of the disease occurred, shows that all reproduction is not prevented. It is possible that the reproduction took place even during the short time after milking, before the milk was put on ice. Where this precaution of cooling the milk almost at once is not taken there is great danger of wide distribution of infectious material.

Public Prophylaxis.—Dr. Little of St. Louis said that public prophylaxis of disease should be the watchword of the medical profession of the present day. It requires special effort, but this effort is well rewarded. Unfortunately, our boards of health are too often in the hands of politicians and political influence is brought to bear to prevent the impartial working of the law. The medical profession must rise above these untoward influences, and we must use the means that bacteriology has given us for the prevention of disease. The bacteriology of diphtheria is the most helpful contribution to medicine that the related science has brought us. By learning its practical application we will probably be able early in the present century to do away with most of the epidemic diseases.

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Genito-Urinary Examinations.—Dr. Ferdinand C. Valentine of New York read a paper on genito-urinary examinations, as they can be made by the general practitioner. This he illustrated by a series of demonstrations on selected patients. He said that most of the genito-urinary examinations are entirely within the scope of the general practitioner's work. Only exceptionally is a trained urologist needed. Dr. Valentine then proceeded to show what he considered the essentials of a genito-urinary examination.

Symposium on Pericarditis.—Dr. Frank Billings of Chicago detailed a series of cases in which the diagnosis of pericarditis was made only postmortem. These cases illustrate the difficulty of diagnosing the condition and the possibility of its escaping notice even where careful methods of diagnosis are in vogue. In one case the patient was suffering from emaciation when admitted, was feverish and breathing very rapidly. The pulse was 120 and weak and irregular. As the patient remained in the hospital, the breathing became shallower and faster. The heart area was overlaid by emphysematous lungs, so that the usual heart dulness was obscured. This took away the principal physical sign of pericarditis.

Etiology.—This patient suffered also from some swelling of the wrists and ankles that seemed to be purulent in character. The removal of fluid from one of the joints showed the presence of biscuit-shaped diplococcus and some staphylococci. The patient was also suffering from a slight urethral discharge in which gonococci were found in the form resembling the biscuit-shaped diplococci of the joints. The temperature became remittant, rising as high as 104.4° F. in the evening. The patient gradually grew weaker with a pulse at 140 and the respiration at fifty-six.

Ante- and Postmortem Diagnosis.—The antemortem diagnosis had been septicopyemia, complicated by endocarditis with the arthritic involvement probable as gonorrheal complications. At the autopsy there was found, in addition to this, a sero-fibrinous pericarditis with a large amount of fluid in the pericardial sac.

Pleurisy and Pericarditis.—In another case the symptoms of pleurisy were detected on the left side, pulsus paradoxus developed and the patient became so uncomfortable that the pleuritic effusion was drawn off. A considerable amount of discolored fluid was withdrawn from the pleural cavity, containing an almost pure culture of the colon bacillus. The fluid reaccumulated several times and was withdrawn, each time becoming clearer in color and also sterile, the bacillus coli communis having disappeared. Notwithstanding the withdrawal of the fluid from the pleural cavity, the patient continued to grow worse and finally died. At the autopsy the pericardial sac contained a large amount of clear fluid.

Pathonomonic Symptoms of Pericarditis.—Dr. Billings said that there are no genuinely pathognomonic signs of pericarditis. The most significant physical signs are the extension of the dulness far to the left and to the right and the fact that the apex beat is distant from the left border of heart dulness as it can be demonstrated.

Pathology of Pericarditis.—Dr. Joseph McFarland of Philadelphia discussed this subject. He said that at the origin of medicine, heart disease was supposed to be incompatible with life. The heart as the origin of life and its disease were supposed to be instantly mortal. Galen noted the existence of pericarditis in animals and inferred its occurrence in man. Some of the old chroniclers referred to the hairy hearts of heroes, and it seems not improbable that the reference is to the stringy fibrin that would be found in the case of old fibrinous pericarditis.

Occurrence of Pericarditis.—The disease occurs at all ages though more frequently in adult life and attacks males more than females. Barthez and Riet found the proportion in a series of cases 21 males to 3 females. Bamberger found 33 males to 25 females. Simpson found 35 males to 28 females. All conclusions favor the preponderance of the disease in males, probably because they are more liable to the exposure and accidents which lead up to the disease.

Pericarditis, Primary and Secondary.—Primary or idiopathic pericarditis is still supposed to exist. The name is retained for such cases of infection of the pericardium that occur through a lesion which can not be found. As a rule, pericarditis is secondary and occurs as the result of the metastasis of infective agents. These agents may come either through the blood or the lymph.

Lymphatogenous Pericarditis.—This form of the disease occurs as the result of the extension of an inflammatory process from some neighboring focus or from trauma in the vicinity or as the result of foreign bodies in the stomach or esophagus or by the burrowing of an abscess from the lungs, or as the result of the pressure or rupture of an aneurism of the aorta. Or it may occur exceptionally by the burrowing of infectious agents from the skin surface in the precordial region.

Hematogenous Pericarditis.—This may occur in the course of any infectious fever. It is especially liable to occur in rheumatism or in scarlet fever. The proportion of cases in rheumatism in which pericarditis occurs varies very much according to different authorities. One French authority states that as high as 85 per cent. of cases of rheumatism are complicated by pericarditis. Bamberger found that about 30 per cent. of cases of rheumatism under his observation developed some symptoms

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of pericarditis. One observer has found as low as 5 per cent. of rheumatic pericarditis. It occasionally occurs during gonorrheal rheumatism, and develops more frequently in the course of polyarticular than in monoarticular rheumatism.

Rheumatic Pericarditis.—Dr. MacFarland said that it should be borne in mind that the cause of rheumatism has especial affinity for the inner and outer linings of the heart. Pericarditis for instance may occur before there are any rheumatic symptoms in the joints. Rheumatic pericarditis may develop and run its course without any symptoms of rheumatic arthritis accompanying or even following it. In these cases, of course, the diagnosis may easily be missed and the occurrence of fever without good cause should lead to the careful examination of the heart region.

Scorbutic Pericarditis.—Scurvy may cause hemorrhages into serous cavities and these are liable to become infected. The pericardial sac is no exception to this rule and scurvy is a very prominent cause of pericarditis. It leads to the effusion of a sero-sanguinal fluid within the pericardium. Scurvy may become endemic and practically every case of the disease may be complicated by pericarditis. This set of symptoms would seem to constitute the morbus cardiacus of the older writers.

Pericarditis in Chronic Nephritis.—Chronic kidney disease is very frequently complicated by pericarditis. The reason would seem to be that the deterioration of eliminative processes causes distinct lowering of the resistive vitality. When chronic nephritis gives rise to generalized dropsy there is always an effusion of serum into the pericardial sac. This is not merely a mechanical transudation, but is due also to the fact that the retention of toxic materials in the circulation renders the vascular walls less retentive of the blood serum.

Pericarditis and Microbes.—There is no specific microbe for pericarditis and many forms of micro-organisms enter into its causation. The pneumococcus and Friedlander's bacillus are very prominent factors in etiology and may give rise only to serous effusion. In purulent pericarditis any of the pyogenic cocci may be found, or the pneumococcus or Friedlander's, or the bacillus coli communis. When the fluid within the pericardial sac is hemorrhagic in character, the causes of pericarditis will usually be found to be the tubercle bacillus. Unless, of course, some recent trauma serves to account for the presence of the blood, in the serous effusion.

(To be continued.)

AMERICAN ACADEMY OF MEDICINE.

Twenty-Sixth Annual Meeting, Held at St. Paul, Minn., June 1 and 3, 1901.

A REGISTRATION of 50 and an addition of 48 members represents the cold facts concerning the twenty-sixth annual meeting of the American Academy of Medicine. It thus begins its second quarter of a century under auspicious circumstances. The simple tabulation of statistics, however, does not give the true value of the meeting.

The subjects under discussion consisted first of a Symposium on "Reciprocity in Medical Licensure," in which the trend of thought seemed to be away from pure reciprocity toward a conditional examination of those men moving from one State to another who had already acquired a license to practise by an examination before a State board. It was thought, on the one hand, that it would be almost impossible to so synchronize the movements of the various State boards of medical examiners as to make the examinations practically equivalent; and, on the other, that certain fitness to practise shown by those who had already been in practice should be accepted in lieu of an examination upon the primary subjects, while certain other tests should be applied which could easily be met by any one engaged in active practice if he were at all fit to receive a license.

The other symposium was entitled "Institutionalism," but the papers rather treated of its abuses. They were all suggestive and will form an interesting contribution to the subject. Special mention should be made of a paper by Dr. Hill of Iowa upon the present method of supervising institutions of that State, whereby a commission of three, giving their whole time and receiving a salary from the State, supervise the management of all institutions for defectives. It removes the oversight of these institutions from politics and is working very well.

Another paper by Dr. H. Bert Ellis of Los Angeles describes a hospital in that city owned and controlled by medical men for profit, not philanthropy, which serves as a fair investment for the money and is a great convenience to the profession in that city.

In addition to the papers connected with these symposia were several of great interest, Dr. Cattell of Philadelphia giving the details of the executive management of clinical laboratories in connection with hospitals; Dr. T. D. Davis of Pittsburg, a valuable paper on the necessity of culture studies for medical students; a paper by Dr. P. Maxwell Foshay of Cleveland upon his new method of determining the value of professional services recently outlined in the *Cleveland Journal of Medicine*, and another by Dr. James A. Spalding of Portland, Me., giving the personal experience of an ophthalmologist suffering from a sudden loss of vision and consulting first the optician and then the oculist for aid, showing the inefficiency of the former and the great help which the latter gave him.

The meeting concluded with the usual very enjoyable social session after electing Professor V. C. Vaughan, of the University of Michigan, President.

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BOOK REVIEWS.

NURSING ETHICS; for Hospital and Private Uses. By ISABEL HAMPTON ROBB, Graduate of New York Training School, Bellevue Hospital. J. B. Savage, Cleveland.

A CAREFUL perusal of this little work is warmly recommended to all who are already nurses or who intend to venture into the nursing profession, for very rarely have ethical principles been set down in a more attractive and readable style than this well-known author has done. The book will claim the attention of all who open it; doctors will appreciate the ennobling and oftentimes self-sacrificing duties of a nurse; nurses themselves will find much to instruct them and to define their responsibilities, while the probationer will get a clear idea of her work, and, if aware of her unfitness, may rid the profession of an undesirable member. Its adoption among the regular text-books of a training-school is warmly advised.

MODERN SURGERY, GENERAL AND OPERATIVE. By JOHN CHALMERS DA COSTA, M.D., Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College, Philadelphia; Surgeon to the Philadelphia Hospital and to St. Joseph's Hospital, Philadelphia. Third Edition. W. B. Saunders & Company, Philadelphia and London.

WE welcome with pleasure the rapid appearance of this new edition of Da Costa's Surgery. That it has stood the test of time, its popularity among student and physician has shown. The original plan of the work has not been departed from, but, as in the previous edition, it has been found necessary to add considerable new matter to bring it up to the present day. The language is clear and concise, the description of operations to the point and the illustrations, among them quite a number of radiographs, excellent. The book will, no doubt, continue to enjoy a wide sale.

HUMAN PLACENTATION. AN ACCOUNT OF THE CHANGES IN THE UTERINE MUCOSA AND IN THE ATTACHED FETAL STRUCTURES DURING PREGNANCY. By J. CLARENCE WEBSTER, B.A., M.D. (Edin.), F.R.C.P.E., F.R.S.E., Professor of Obstetrics and Gynecology, in Rush Medical College (affiliated with the University of Chicago); Fellow of the American and Chicago Gynecological Societies, and of the Edinburgh Obstetrical Society, etc. A monograph containing 120 pages of text, with 233 illustrations. W. T. Keener & Co., Chicago: 1901.

THIS is a comprehensive but concise study of the human placenta, and presents a full account of the changes in the uterine mucosa and in the attached fetal structures during pregnancy. It is based upon investigations, extending through a period of eleven years, conducted by the author at the College of Physicians, Edinburgh, McGill University, Montreal, and Rush Medical College, Chicago. He has studied the uterus from actual specimens secured during all the successive months of pregnancy beginning with the second, in the first and second stages of labor, in the third stage (the uterus being secured by Porro-Cæsarian section), and during various stages of the puerperium. Cases of complete abortion in the early weeks of pregnancy have also engaged his attention. For the purpose of comparison the placenta and uterus were examined, in various stages of pregnancy, in the mouse, rat, rabbit, guinea-pig, pig, sheep and cow. The work is a monument of industry and careful, scientific investigation and is a most valuable addition to our knowledge of the subject. The author discusses the observations and conclusions of previous investigations and presents many valuable conclusions, but the book is principally noteworthy as being a repository of facts valuable and pregnant with future suggestion.

THE YEAR-BOOK OF THE NOSE, THROAT AND EAR. Edited by G. P. HEAD, M.D., and ALBERT H. ANDREWS, M.D. The Year-Book Publishers, 100 State street, Chicago, 1901.

THIS summary of current literature on the nose, throat and ear is well edited and very readable. Its abstracts are carefully made, indicating the main points in leading articles, so that the whole gives the reader a comprehensive survey of the latest additions to each of these fields of study. The arrangement by subjects and regions, giving together all of the same kind and referring by numbers to the Index of Periodicals, which in turn is supplemented by a good general index, is such as to invite to helpful knowledge with little effort. The work serves the purpose of the more formidable Index Catalogue with less cost and greater convenience. The volume is handy. The editors have made it valuable and available for both the general practitioner and the specialist.

BOOKS RECEIVED.

The MEDICAL NEWS *acknowledges the receipt of the following new publications. Reviews of those possessing special interest for the readers of the* MEDICAL NEWS *will shortly appear.*

CHRONIC URETHRITIS OF GONOCOCCIC ORIGIN. By Drs. J. de Keersmaecker and J. Verhoogen. Translated and Edited by Dr. Ludwig Weiss. 8vo, 250 pages. Illustrated. William Wood & Company, New York.

PRINCIPLES OF SURGERY. By Dr. N. Senn. 8vo, 700 pages. Illustrated. Third Edition. F. A. Davis Company, Philadelphia and Chicago. $4.50.

UTERINE FIBROMYOMATA. Their Pathology, Diagnosis and Treatment. By Dr. E. S. Bishop. 8vo, 322 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia. $3.50.

MANUAL OF DISEASES OF THE EAR. By Dr. Thomas Barr. Third Edition. 8vo, 429 pages. Illustrated. The Macmillan Company, New York. $4.00.

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ORIGINAL ARTICLES.

PSYCHIC EPILEPSY, WITH THE REPORT OF A CASE.*

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IN view of the enormous amount of literature which has appeared in the last few years on the subject of epilepsy, the following statement of the late Dr. Landon Carter Gray, in an article written by him only five years ago, is both interesting and significant. He says: "The physician himself seldom sees an attack, even if he be the resident of a hopsital, for, while I have probably treated thousands of cases, I could easily count on my fingers all those that I have observed during the attack itself." Now, if Dr. Gray's utterance is true with regard to the ordinary convulsive attack, it is vastly more so with regard to the psychic form—a fact which gives to a personally observed case of the latter type, such as is to be related, sufficient importance to make it worthy of record. But before proceeding to this, a brief preliminary review of our present state of knowledge on the general subject of psychic epilepsy would seem not to be out of place.

By psychic epilepsy we understand those peculiar pathologic alterations of consciousness and memory which may precede, accompany, follow, or even, according to certain observers, take the place of the epileptic fit. Patho-physiologically considered, such states of mind are regarded as the result of inhibitory or irritative explosions within that portion of the cerebral cortical territory which presides over psychic processes. Hence simultaneous motor disturbances, the result of a synchronous inhibitory or irritative explosion primarily within the motor cortical territory, are constantly lacking. Nevertheless, associated motor phenomena, sometimes of the most complicated and purposive types, do occur, and to account for them properly we must consider them as end-results of psychic processes. As a matter of fact, it is these very motor phenomena, which frequently manifest themselves in theft, burglary, acts of violence, murder even, that have lent to the subject of psychic epilepsy the great forensic importance which it possesses to-day. As Ottolenghi says: "It is to such epileptic accessions that we must often refer those enormous crimes which strike fear and terror to the heart of a community and make it overwhelmed with horror, cry vengeance against the human beast, the ferocious assassin, who often is none other than a pitiable epileptic, irresponsible for his misdeed."

For a long time this close association between epilepsy and crime has engaged the attention of alienists and criminologists all over the world, and it is to their untiring efforts that our present comprehensive knowledge of epileptic psychopathic phenomena is due.

Before entering upon the consideration of the varied disturbances of consciousness and memory which constitute the clinical expression of the psychopathic phenomena, it may be well to state that the epileptic is particularly prone to illusions and hallucinations. As a matter of fact, the epileptic brain constitutes a fertile soil for the formation of both of these types of morbid phenomena, which may exist independently of the convulsive attacks, may provoke the attack, or occur in the attack itself, forming in the last named, as a rule, the psychic aura.

The disturbances of consciousness and memory proper, with their consequences, are, however, the factors in psychic epilepsy which are of the greatest medico-legal importance and deserve the most extended consideration. These have been divided by authorities into the two following groups: (*a*) Those constituting the so-called intellectual petit mal; and (*b*) those constituting the so-called intellectual grand mal.

But it should be borne in mind that although these forms derive their names from the grand and the petty convulsive attacks, they cannot be brought into any causal connection with them. Furthermore, that there is no correlation between the psychic attacks and the convulsive phenomena of the disease in one and the same individual.

Intellectual Petit Mal.—In the simplest form of this type the loss of consciousness may be so slight as to escape observation unless this be lengthy, complete and searching. Such losses of consciousness have been characterized as "absences or pauses of consciousness." In certain attacks the patient's glance becomes fixed in the distance, his face suddenly becomes pallid, his speech interrupted, his gesture arrested, and he remains apparently unconscious, and as if in an ecstasy. After a few moments consciousness returns, and he continues all forms of activity at the point at which he left off.

The obnubilation of the intelligence presents great variations in degree. At times it is so profound that the patient has absolutely no sense of what has happened: at others he sees vaguely the persons about him but does not hear what is said, or *vice versa*. And afterward he is practically

* Also published in the Medical and Surgical Reports of the Boston City Hospital, Eleventh Series.

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never able to reply correctly to what is said to him while in the attack. Should the attack come on while he is walking about, the walk may not be interrupted. Sometimes it does not occasion a pause even in occupations which require delicate manipulation, as shaving, the patient being totally unaware that anything unusual has happened.

It is interesting to note here that Féré objects to the contention of many authorities that such manifestations are the result of inhibitory or irritative explosions in the purely psychic areas of the cerebral cortex, without similar synchronous explosions in the motor areas, because, as he says, whereas certain patients during the attack merely drop whatever object may be in their hands, others project it to a distance. This author further supports his objection by myographic tracings which show the presence of slight muscular jerkings in both upper and lower extremities, synchronous with the onset of the "absence."

Although the integrity of the intelligence seems frequently to be restored at the end of the absence, this is not always so. It may remain clouded for several minutes, during which the patient appears as if astonished and not in normal touch with the situation; or the obnubilation may continue for hours.

In the more prolonged and severe attacks of the intellectual petit mal type there may occur the most varied motor phenomena as end-results of perverted ideation. Such attacks often manifest themselves suddenly, after a short incubatory period of melancholic depression, by a condition of profound anxiety, and are characterized by marked confusion, considerable irritability, impulsions—all of which the patient may recognize as pathologic—and by imperative ideas. Overwhelming *tedium vitæ* may take possession of the patient, and often betrays itself in suicidal attempts of the most loathsome sort. During this same condition certain patients repeat incoherent words, take off their clothing, strike those about them, or commit acts of theft and incendiarism; others exhibit their genitals, while others still, yielding to impulses, leave their homes and walk straight before them for a longer or shorter period of time. It is among this last group that we find those interesting cases of ambulatory automatism of long duration, in which the patient may go about for many days, or even weeks, performing the most complicated acts, without attracting attention to his condition, and may not come to himself until he is hundreds of miles from home. During the whole period of this so-called automatic state the patient may give proof of his power of initiative, act just as he would in ordinary health, retain a recollection for memories already acquired, and not lose consciousness of such automatic acts until he comes to himself. This twilight state of consciousness (the "Dämmerzustand" of the Germans and the "stato crepuscolare" of the Italians) together with the variations in the character and degree of amnesia to which it leads, are among the most important considerations, from a medico-legal standpoint, in the whole domain of epilepsy, and will be considered more fully later in connection with amnesia.

Intellectual Grand Mal.—The question whether this type of epileptic psychosis is an absolute equivalent to the grand convulsive attack, as it is held to be by certain observers, is still an open one of great interest and importance. Legrand du Saulle claims that every insane outburst of this type is invariably preceded by some well recognized epileptic manifestation, such as rudimentary and abortive paroxysms or a nocturnal attack, and alleges lack of thoroughness of research on the part of those who regard such outburst as a pure equivalent. Be this as it may, there is certainly one fact in reference to this particular type of psychosis which seems to be proven by accumulated experience, namely, that it can never in a given case, be regarded as the first symptom of epilepsy. To establish its claim to be considered as epileptic in character other well-recognized manifestations of the disease must be shown to have preceded it. The medico-legal importance of this fact will be apparent when we come to the question of diagnosis.

Attacks of intellectual grand mal usually occur after very brief prodromes, and manifest themselves, in contradistinction to the ordinary petit mal types, by impulsive acts of the greatest ferocity directed against the sufferer himself or against others. The basis of these impulsive acts is usually composed of a mixture of anger and fear sensations, and of terrifying and threatening hallucinations. After committing acts of the most brutal ferocity, the patient may sink into a profound slumber, surrounded by the most damning evidences of his crime, and awake therefrom with a complete amnesia for the attack and everything connected therewith. In certain cases the attack may last for several hours or several weeks, and in the latter type a remittent character is not infrequently observed. During these remissions, which may last for some hours, the patient may be clearer and quieter, or he may sink into a deep sleep, from which he awakes fully deranged as before, and either stuporous or thoroughly excited.

According to Falret and others a primary incoherence or dissociation of ideas is the most essential feature of the disease-picture. All other symptoms group themselves in the most widely varying intensity and manifoldness about this psychopathologic basal phenomenon, which also plays the greatest part in the dreamlike character of the attack. The special form which the psychosis will take in a given case is determined by variations in the pathologic play of the passions, as well as by the number and content of the hallucinations. If there is a marked inhibition of thought processes, the element of incoherence retires into the background, and a marked stuporousness takes its place. Patients of this type remain mute, unparticipative, withdrawn within themselves, until a more powerful sensation of

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fear or anger, or a more active hallucination arouses them from this treacherous apathy and impels them to deeds of the most ferocious violence.

When incoherence alone is at play throughout the attack the patient is in a condition of the most marked motor excitation, which betrays itself by purposeless and senseless acts, by the garrulous externalization of rapidly succeeding ideas and, at the height of the attack, by absolute verbigeration. And it is easy to determine, by his mimicry, gesticulations and speech, that he is under the spell of visions or of hallucinations of other special senses, or of illusions. He is fully disorientated, and the threads which bind him to the outer world are completely severed. He leads, in reality, a dream life, which, dissevered from all normal connections with the outer world, is governed only by fragmentatively arising ideational complexes or by hallucinations and illusions. In exceptional cases the hallucinations manifest themselves with great sensual liveliness. Animal shapes, deluges, representations of theft and murder crowd upon the patient and occasion ineffable terror, or incite him to defence or flight; or divine voices, rejoicing angels, or transfigured relatives deliver joyous messages to him. He sees soldiers marching, hears patriot songs resounding, cannons thundering, drums beating and trumpets calling; he rushes about the room in an ecstasy of patriotism, sings national songs, and cries "hurrah!" On the other hand, it may be shrieks from hell he imagines he hears; devils may assail him, and dreadful cries resound about him; a horrible smell may fill the room. In this case the patient huddles whimpering beneath the bed-clothes or cowers trembling in a corner of the room to escape the onslaught. He may even run swiftly from place to place in search of shelter, and this procursive tendency has led, on the part of certain observers, to the mistaken idea of a procursive epilepsy (epilepsia procursiva) as a clinical entity of the disease, whereas the phenomenon is in reality due to an insistent and monotonous cycle of imaginations, or to certain hallucinations.

The Pre- and Postepileptic Psychoses.—These forms of transitory mental disturbances are, to a certain extent, to be considered only as prolongations of the aura or as outgrowths of the soporous after-stage. The postparoxysmal forms excel by far in frequency and extent. The preparoxysmal consists principally in increased irritability of the temper, great anxiety, markedly inhibited ideation, monotonous hallucinatory excitation or impulsions—less often in an extravagant good humor—and generally leads merely to motor reactions of a few hours' duration, which take the form of compulsory disordered activity or of acts impelled by fear and anger. The postparoxysmal psychoses, on the other hand, present much closer analogies to the psychopathologic phenomena of the so-called epileptic equivalent. They have been divided by Binswanger into the following groups:

(*a*) Merely stuporous conditions, the result of inhibition of all intellectual and motor conductivity.

(*b*) Attacks with ordered automatic acts.

(*c*) Attacks with systematically arranged hallucinatory series, like certain dream-pictures.

(*d*) Attacks with stormy hallucinatory irritative phenomena, accompanied by marked incoherence and impulsive acts of violence.

A combination of two or more of these groups may be present in any case, and the clinical aspect naturally varies accordingly. It is noteworthy that protracted stuporous conditions, which may extend over many days or even weeks, prevail more commonly in the postparoxysmal conditions than in the equivalent, so called. Hence, we may have mutism, fixed and expressionless glance, slow pupillary reaction, diminution of the skin and tendon reflexes, varying flaccidity and cataleptiform rigidity of the body musculature, total analgesia of the skin and mucous membranes. If such attacks last for days they are generally interrupted, during periods of several hours' duration, by marked motor excitations, such as: Verbigeration, simple and combined compulsory acts, deeds of violence, etc., either with or without a recognizable hallucinatory basis.

As a rule this severe type of attack follows closely in the wake of the frequently repeated and serial form of epileptic convulsions. The convulsive series may be made up of the most varied combination of complete, rudimentary, or abortive attacks. The best measure of the probable severity is the longer or shorter interval which prevails between individual convulsions; the shorter the interval and the greater the mental and bodily degradation which follows, the more protracted and severe will be the psychosis at the end of the series. Binswanger has observed, in a less common group of cases, where the transitory psychosis follows upon a single complete or abortive convulsive attack, that this outburst is the probable result of a postponement, by treatment or otherwise, of an attack which, if not interfered with, would tend to recur frequently.

In the amnesia which is intimately associated with all types of psychical epilepsy we have a subject of the greatest scientific and forensic importance, and the variations which it presents in form and degree lend a peculiar interest to its study. In the most prolonged "absences," those which may last for days, months or even years, during which the patients think and act in a fashion analogous to their normal state and have a memory for their acts that ceases only when they "come to themselves," as it is called, we often observe an amnesia which is profound. This probably arises from the completeness of the doubling of the personality which takes place; there being not a single thread which binds the intellectual processes of the "twilight" with that of the normal state of consciousness. Complete amnesia of this type usually follows closely upon the very brief and violent insane outbursts which at times constitute the psychic equivalents of the

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epileptic convulsion. Here the amnesia is probably to be explained on the ground that in the pathologic play and counterplay of inhibitory and irritative processes which dominate the psychic activity of the epileptic, the factors are not present that give rise to the production of memory-pictures in the ordinary course of associated ideas.

In other cases the amnesia is not so deep. In the less developed forms of the crepuscular state the memory defect is less marked. There are connecting links between the normal and abnormal which are made up of fragmentary memories of acts and experiences occurring during the attack.

One of the most interesting types of amnesia which occur in connection with epilepsy is the so-called "retroactive" type, in which the loss of memory goes back farther than the attack itself. This retrograde amnesia has considerable forensic importance.

To establish the diagnosis of psychic epilepsy frequently requires a great deal of acumen combined with endless patience and pertinacity. From time to time epileptics are put on trial for the most widely varying criminal acts, from petty theft to murder, for which they are not responsible and of which they may have not the slightest memory. On the other hand, the plea of irresponsibility, the result of an epileptic psychosis, is often put forward by astute criminals to shield them from the law. Consequently it behooves the medical expert to have in mind the clearest possible understanding of the epileptic psychoses with their manifold manifestations. Before one can say that he is dealing in a given case with an epileptic psychosis, he must prove absolutely by such unequivocal signs as convulsive attacks, fully marked, rudimentary or abortive, that the patient before him is really an epileptic. It has already been emphasized that the epileptic psychosis is never the first symptom of the disease, and recorded cases all go to prove farther that it does not suddenly appear out of a clear sky at some remote period in the life of an individual whose only claim to epilepsy is based on one or two convulsive attacks which occurred in infancy or early childhood.

In the case of a crime (murder for instance) alleged to be committed during an attack of epileptic insanity and to be followed by retrograde amnesia, there are many factors to be considered before the truth of the allegation can be admitted and the irresponsibility proved. In the first place it should be remembered, as Féré has pertinently shown, that an individual may leave his house, descend his steps, cross a garden walk and then lose all memory in consequence of a shock which he has sustained on putting his foot upon the sidewalk, but this loss of memory does not prove that the individual was either unconscious or irresponsible when he shut the door of his house. In the same way an act committed under the spur of an uncontrollable passion may leave behind it a retrograde amnesia of marked degree both for the act and the circumstances leading to it, but it does not prove irresponsibility. This is particularly emphasized because there are cases on record where postepileptic retrograde amnesia and irresponsibility have been alleged and successfully sustained in defence of criminal acts, the results of pure outbursts of passion. On the other hand, it is also to be borne in mind, that an epileptic, even during the most violent period of his insane outburst, may reply to appelations and hurl at each of the onlookers appropriate objurgations, but that while this may be taken as an index of a certain degree of consciousness, it cannot also be assumed as evidence of responsibility.

In certain cases, where amnesia is not retroactive, the patient on coming to himself, with evidences of his crime on every hand, does not seek to excuse himself. But this does not always follow, and Féré and Legrand du Saulle have reported cases when the patient alleged the most improbable reasons for his deeds. In other cases still the amnesia is retarded, and may not be complete for several hours after an attack.

The character of the crimes to which epileptic insanity usually leads has already been alluded to, and it is of diagnostic importance to keep in mind the fact that such crimes, as a rule, are the automatic execution of a preëxisting idea, whether normal or pathologic and that their gravity usually varies with the ordinary sanity and calling of the subject. If, for example, he is ordinarily sound in mind and has only professional preoccupations, his insane acts during the attack will be vastly less dangerous to himself and the community than if he is constantly unsound, subject to homicidal or suicidal impulses, or is a habitual criminal. As a matter of fact, many criminals are also epileptics, and Ottolenghi goes so far as to see in the mental, moral and physical habits of many habitual criminals congenital and other evidence which tends to prove that their whole existence is one protracted "twilight" state much diluted, so to speak.

Alcohol as a factor in the production of psychic epilepsy is one of paramount importance. The epileptic brain is one which is easily upset by even small amounts of such a marked nervous irritant, and the result is frequently an attack of insanity. In cases of epilepsy due to craniocerebral traumatisms in which, as every neurologist well knows, intolerance of the brain for even trifling amounts of alcohol is particularly striking, it becomes a nice question as to the responsibility of the individual for crimes committed during an outburst of epileptic insanity produced directly through the agency of the alcohol. Apart from this, pure alcoholic mania has been confounded with the epileptic type. A proper investigation of all the circumstances attending the onset, together with careful observation of the patient after the attack should easily suffice to differentiate. Genuine alcoholic epilepsy usually comes on very late in life, after many years of abuse of this stimulant.

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The so-called *raptus melancholicus* has in certain cases been mistaken for the epileptic accession. This form of maniacal outburst, which sometimes occurs during the course of melancholia and is marked by violent impulsions of various kinds, is to be differentiated from the epileptic variety by a careful consideration of the previous history of the case, and by the fact that the acts which immediately precede the *raptus* are never followed by that apparent tranquility of mind which is possible in the crepuscular state of consciousness which precedes or constitutes the epileptic psychosis. In addition to this the ideas of persecution which impel the melancholic to violence are always more fixed and persistent than in the epileptic. Finally the intermittency of all the epileptic prodromes is in sharp contrast to the fixity of the melancholic.

Transitory mania and psychic epilepsy have so many bonds of affinity that many cases of the former are confounded with the latter. In any case the differentiation is simple, if one can establish the fact of preëxisting epilepsy, of no matter what type.

The distinguishing feature between the "twilight" condition of epilepsy and the merely somnambulistic state is that in the latter there is almost invariably lacking all impulse to deeds of violence, so common to the former.

From all that precedes we may finally conclude: (*a*) That the psychoses of epilepsy have very definite and immediate associations with other manifestations of the disease; (*b*) That the plea of irresponsibility for criminal acts alleged to have been committed while an individual was suffering from epileptic mental alienation should be considered invalid, unless other and irrefragible manifestations of the disease can be adduced; (*c*) That vague and ill-defined convulsions, which date back to infancy or early childhood, do not constitute such other manifestations.

The case to be reported comes under the head of intellectual petit mal. It is of traumatic origin and presents such clinical features as "absences" of consciousness, amnesia, and automatic acts.

The patient is an unmarried man of thirty-three years. He was born in England of Scotch parents, and is by occupation a waiter in a hotel. The family history is free from any taint of mental or nervous disease and the patient's parents are both alive and well. There is no history or evidence of venereal disease. Up to eight years ago there was very moderate habitual use of malt liquor; little since. Tobacco, four ounces per week. Up to fifteen years ago the patient was a well man in every respect. At that time he fell from a cherry-tree, striking, he thinks, on his head. He got up, however, almost immediately and began to walk, and did not "come to himself," as he puts it, until he had gone several miles. He recognized that he had gone a long distance, but could not tell why, although he was aware that he had had a fall. He was all right after this for several years, but then began to have "fainting" spells, during which his mind was a blank. Four years ago these spells began to be preceded by a bad taste in the mouth, and as unconsciousness developed the patient would clutch at surrounding objects. In such attacks he has burned his hands several times by clutching at a red-hot stove. Since this time there have been pretty constantly recurring attacks of ambulatory and other automatic acts. He says that he may be walking along the street, when his mind suddenly becomes a blank and he continues on indefinitely, knowing absolutely nothing about what he is doing or where he is going. On one occasion he remembers going into a saloon and asking some one to drink with him, but does not remember getting up to the bar. Several hours later, when he had regained consciousness, he found himself under arrest for drunkenness. His memory is poor, but between attacks he manages to do his work fairly satisfactorily. His appetite is good and his bowels regular. He sleeps well, as a rule, but there are times when he does not sleep at all for two or three nights running, and he finds that his mind is not clear on these occasions. His eyesight and hearing have not failed. Up to this date (May 28, 1900) there has never been any attack of the grand mal variety. Examination to-day (May 28) is absolutely negative from a physical standpoint. Mentally the patient is sluggish and gives evidence of marked impairment of the memory. Close inquiry fails to reveal any hallucinatory or delusional precursors of the attacks. Subsequent notes are as follows: June 15.—Three days ago attack while riding home in cars. Did not get off at destination but continued to end of route and back again, paying two fares. Did not come to for half an hour and got home before his head was very clear. Ordered to increase bromide to gr. xx. t. i. d. June 29.—Two attacks this A. M., one here at the clinic. In this latter he sits staring at a newspaper which he holds semi-inverted, as if in the act of turning it. The pupils are equal, moderately contracted, and irresponsive to light. The face is congested and sweat pours from the forehead; the patella reflexes are absent. He pays no attention to questions, even when they are put to him in loud, sharp tones. There are no convulsive movements. Given a pasteboard card, he tears it industriously in layers, and then demolishes a block of prescription blanks, slip by slip. When nudged or shaken, he merely grunts and continues what he is doing. Ten minutes after onset he answers questions somewhat, but cannot tell where he is. He is then given a promissory note for ten thousand dollars made payable to me, for value received, and asked, after reading it, to sign it. He does so, and is then asked to add the date. In response to this he looks at the newspaper in his lap, asks what the date is, and, when told, repeats his question several times; finally adding date to

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the note. He is then told to read the note aloud and does so, calling $10,000—ten dollars. He is told that the sum is ten thousand dollars and asked if he meant to sign it. He says he did. Five minutes later he is shown the note again but remembers nothing about having seen or signed it. A half an hour after the onset the patient is almost fully conscious and remembers nothing whatever about the attack or anything connected with it. His knee jerks are now present and normal. The pulse and respiration have been normal throughout.

Nothing of note with reference to the case is recorded from the above date until August 6, when the following record was made: "The patient had an outspoken convulsive attack on the night of August 3. Given bromide gr. xx from then on. Had one or two other slight spasms. His mother let him go out alone last evening and he has not been seen since. Advised commitment to epileptic colony at Munson, when found."

In view of the general description given of intellectual petit mal it seems hardly necessary to enlarge upon the diagnostic features of this particular case. The forensic importance of such an act as signing the promissory note needs only to be mentioned to be appreciated. With regard to the attack which occurred when the patient entered the saloon and invited the person he met there to drink with him, an attack which led to his subsequent arrest for drunkenness, there appears to the writer to be two interpretations. Either that he did actually take a drink, which precipitated the attack and led to a complete amnesia of a retroactive type, or that the attack came on just as he started to take the drink. If the latter theory is correct, the amnesia really goes back only to this point; but it is easy to understand that the patient himself believed, on finding himself under arrest, that he had actually taken the drink and had become intoxicated thereby.

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THE MEDICAL EXPERT EVIDENCE IN THE CASE OF THE DAVIS BELLEVUE HOSPITAL HOMICIDE.[1]

BY R. L. PRITCHARD, M.D.,
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THIS case, recently tried in this city, has brought the question of medical expert evidence once more prominently before the public. The accused was a nurse in charge of the Insane Pavilion, and he was charged with having caused the death of a patient through violence. Three witnesses testified for the prosecution that they saw the accused nurse strike the patient Hilliard, and pull on a sheet which he had placed around Hilliard's throat. The accused nurse, Davis, as a witness in his own behalf, admitted that he had used restraining force upon Hilliard, and that he had slapped him. The defense was that Hilliard did not die from the effects of the violence.

In no recent case has the issue of the defendant's guilt been so entirely dependent on medical expert evidence as in this case. The defense examined eight medical witnesses, and amongst them were men of the highest standing in the medical profession. The prosecution, not to be left too far in the number of medical expert witnesses, examined five experts, and amongst them were also men in the front rank of the medical profession. The experts on one side differed from those on the other—this is not unusual; but to emphasize their differences, the District Attorney described the testimony of the expert witnesses as a race of liars.

The question which concerns the student of legal medicine is whether the science of medicine is still so far speculative that five prominent physicians can testify that death resulted from strangulation induced by fracture of the hyoid as a consequence of violence used; whilst with equal certainty, eight prominent physicians can testify that death was the result of dilatation of the heart, and that the violence could not have fractured the hyoid bone. With all respect to the District Attorney, neither the experts on one side of the case nor on the other can be charged with wilful misstatements. The medical issues in this case, upon which the medical experts differed, were not of a subtle nature dependent upon microscopic bodies one-ten-thousandth of an inch in diameter, but upon lesions of a gross nature. These lesions were the postmortem appearances of strangulation, and the fracture of the hyoid bone by pulling on a sheet around the throat. With differences in the evidence so striking as they were in this case, and the expert witnesses so eminent, it would be pertinent to inquire whether the District Attorney and the able counsel for the defendant had presented the medical facts in the case, so as to make the differences of the expert witnesses almost impossible? In other words, whether the differences are not due to counsel, who were wading in a science to which they were strangers, rather than hold responsible thirteen members of acknowledged ability in the science under investigation.

The legal profession refuses to assume any responsibility for the differences of medical opinion on the ground that it is the duty of the lawyer to present the best side of his client's case. This is doubtless true as to the lawyer's duty, but when the result of long drawn out medical testimony is negatived by a mass of contradictory opinions, has counsel done his full duty to his client when he has barricaded his case with favorable expert opinions? What he has done his confrère on the other side of the case can accomplish by arranging the facts so as to elicit opinions favorable to his side. Criticism of expert evidence looks upon the difference in the opinions, and but seldom compares

[1] Read before the Medico-Legal Society, March 20, 1901.

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the facts upon which the opposite opinions were given. Counsel can hardly be content because his expert concluded favorably to his side of the case. If his expert opinions are founded on a full and fair statement of facts, the same statement of facts should be submitted to the opposing expert in cross-examination. The expert, when cross-examined, may cross-examine his cross-examiner, if permitted to do so, but cross-examination is the lawyer's field if he has a full knowledge of all the facts and he keeps to them. By doing so, the opposing expert testimony will lose in weight by the qualifications added to answers already given, or by evasion of material questions.

Was the expert medical evidence in this case of the People against Davis brought out on a full statement of facts? Counsel for the defendant may not think that this was necessary on his part, as he has secured an acquittal of his client. But how far was his success a fortuitous accident, which could not be trusted to on other occasions. As the medical issues were framed by the District Attorney, did he make clear all the evidence of Hilliard's death, so that reasonable men could only read in them strangulation? The facts of the postmortem examination were mainly congestion of the internal organs and imperfect aeration of the blood. These are symptoms of strangulation, but they are also symptoms caused by dilatation of the heart. If the District Attorney knew as much about strangulation as he does about law, he would not have sought a verdict implying death from strangulation on the facts presented by him. How then did the people's expert witnesses testify that death was caused by strangulation? Not by relying on the postmortem appearances, but by taking into consideration extraneous facts with the postmortem evidences in the people's case. On the other hand, the defendant's experts excluded from their consideration the same extranenous facts, and found the morbid evidences insufficient to prove strangulation. The opposing medical expert opinions were, therefore, made upon the weight given by each on other than medical data. The District Attorney was deficient on a statement of facts pointing to strangulation; and the defendant's counsel—though successful—was deficient in not submitting to the people's experts the absence of these evidences. However, as defendant's counsel was successful, his deficiencies will sit lightly upon him. And yet, as a scientific man, he must realize that he has achieved a result for which circumstances must be largely credited.

On the question of the fracture of the hyoid bone by means of a sheet around the neck, the people's experts did not go far enough when giving their opinion that it could be produced in this manner. The fact that eminent surgeons and pathologists doubted it, should have called from them such explanation of its probability as would have carried conviction. Not to have done so left a reasonable doubt, which the jury properly gave to the defendant. The hyoid bone is no part of the skeleton. This bone does not articulate with any other bone, and on this account its mobility is only limited by the soft structures through which it runs. This bone is a ridge acting as a center for a large number of muscles. When compression is applied over this bone by means of a sheet, which is to some extent yielding, the pressure will bear more upon the muscles above and the musculo-membranous space between the hyoid bone and thyroid cartilage. The direct pressure capable of breaking the bone, must be such as will firmly grasp it, and compress it more from side to side than from before backward. Still, compression over and about the hyoid bone is not without serious results to the bone itself, but the effect is not due to direct force. The result of the pressure is to interfere with the free entrance of air, and this interference with respiration causes spasmodic contraction of the muscles which act upon the hyoid bone. The muscles acting upon the bone from below are four, and those acting from above are ten. The hyoid bone is subjected to violent and irregular contraction of the muscles inserted into it, with the effect of the bone breaking, as a result of this muscular contraction. Fracture of the hyoid bone caused by muscular action is recognized in all surgical works which treat of this subject. The attention of the experts having been directed to the direct force of the compressing sheet, it was fairly open to doubt whether the injury could follow directly from this violence. Even the defendant's experts would have admitted the possibility of the bone breaking from muscular action. It is too much to expect of the expert witness that he should take into consideration every possibility, indirect as well as direct. That is impossible, as the mind, however honest, decides on facts placed before it. It is counsel's duty to marshal the facts and submit them fully.

Medical expert testimony is not a race among liars. Medical expert testimony, as this case demonstrates, is more often defective from the manner of its presentation than an assumed yielding of the expert witness to whatever opinion is desired of him. Medical expert evidence has the indifferent witness who makes the possibilities of medical science his excuse for almost any opinion demanded of him. That medical witness exists, and it behooves the medical profession to brand him as a canker eating into their body professional. They alone can do it, as they are the only ones capable of weighing an opinion made possible by the possession of a medical diploma. But this last class of medical expert evidence is not found in a trial of great public interest, and where the medical witnesses are the foremost members of the medical profession.

Appointment of Dr. Christian.—Dr. Frank L. Christian, formerly a house physician at Bellevue Hospital and more lately medical officer of the Eastern District Reformatory, has been appointed Medical Superintendent of Elmira Reformatory.

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OBSTIPATION. [1]

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OBSTIPATION, as its name would indicate, is an obstructive costiveness and is to be differentiated from functional costiveness, intentional, habitual delay of bowel movement, and constipation. It is a far more common disease than the profession is prepared to admit.

That type of costiveness which deserves and has received the name of obstipation is dependent upon some mechanical or foreign interference situated in the rectum or sigmoid flexure. Functional costiveness is that condition which may exist as the result of errors in diet or neuroses, exhibiting itself by small daily movements, leaving a residue to accumulate in the intestine. Wirthington[2] says "There is no sharp line separating constipation from health." We claim there is a very clear line separating obstipation from the two lesser evils, constipation and functional costiveness, hence sharp demarcation between health and obstipation.

In constipation there is a sluggishness of peristalsis which consequently delays bowel movement, but eventually there is an effective and satisfactory effort at defecation. Just the reverse of the latter proposition is true in the condition under discussion, as there is a constant unrequited desire which is only partially relieved by using such adjuncts as physic and enemata, producing a stool which is either liquid, semisolid or tape-like in form, and which leaves still that uncontrollable desire for further and complete defecation.

The name obstipation is derived from two Latin words, *ob* meaning "against" and *stipo* to "stuff or cram." We therefore have in obstipation a stuffing or cramming against an obstruction which may be found under any one of the following heads: (1) Compression from without; (2) blocking up of lumen of canal; (3) constriction arising from disease of gut wall; (4) hypertrophy of normal rectal valves; with consequent interruption of lumen of canal and accompanying distortion of gut above obstruction, the latter condition begetting an atonic state.

Ross, in discussing obstruction of the bowels, classified the causes under the first three of these heads, but failed to find the fourth and most important cause, which we place under the fourth division. We will give but brief attention to the first three and confine ourselves principally to the fourth topic:

First, compression from without may be caused by carcinoma or sarcoma involving adjacent organs with the infiltration of surrounding tissues; by enlarged prostate or malposition of uterus and other organs; by adhesive bands which bind down the gut, thus decreasing its caliber, etc. We have in mind one case in which proctoscopy revealed post-operative adhesions. A few weeks since we saw a sarcoma of the sacrum and ilium which produced a decided narrowing of the lumen of the rectum.

Second, the lumen of the canal may be occluded by foreign bodies introduced either *per orem* or *anum*, or forming within the personal economy. This includes an endless category of bones, buttons, nuts, fruit-pits, metallic substances and possibly gall-stones.

Third, constrictions may arise from benign disease of the gut-wall such as dysentery, adenoids, and the specific diseases—syphilis and tuberculosis—and from the malignancy of carcinoma and sarcoma.

Fourth, hypertrophy of the rectal valve as a cause of obstipation. To quote Martin, "One must go to the histologist and not to the mechanical engineer for the definition of an anatomical valve." He tells us that "Shäfer and other histologists agree that an anatomical valve is composed of a superficial layer of epithelium, next a layer of fibrous tissue, and circular muscular fibers at the base. Martin has made sections of many rectal valves, and found that "the most typical partake of the character just mentioned, while many are atypical; some contain fibers from the longitudinal muscular coat; many have a paucity of fibrous tissue; in others the fibrous element appears to be far removed from the mucous free border of the valve, and in others the circular muscular fibers may be sparse or in abundance."

The rectal valve spans half the diameter of the rectum, is semilunar in shape, and must be considered as an anatomical entity in studying the mechanism of defecation. The existence of the normal rectal valve must no longer be doubted. Dr. James F. Baldwin, in discussing a previous paper by the writer on this subject says: "As to these rectal valves, I have seen them in the dissecting-room, sometimes well marked, sometimes indistinct. When, therefore, Dr. Martin first described them and brought them in as pathological factors in the production of obstipation, I accepted his statements with full credence." Cooke, Pennington, Earle, Gant, and in fact every man who has had the opportunity to see a valve, either ante or postmortem, is thoroughly convinced of their existence. Gray and Morris, authorities whom all recognize, state that the rectal valve is an anatomical factor worthy of consideration.

As a rule, there are three valves, but there may be either more or less. I remember seeing one case in which the number was seven. All people, with the usual exception to the rule, are given the normal rectal valve. Every organ of the body is subject to pathological change, and these structures get even more than their share, as their position is such that they are continually exposed to violence. The latter may be taken to mean traumatic, such as the injury to a valve by the passage of some rough or irritating body,

[1] Read before the Mississippi Valley Medical Association.
[2] Ref. Handbook of the Medical Sciences.

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or their immersion by poisonous or acrid discharges. Adding the cases arising from the above causes to those cases of congenital malformation, we consider that we are justified in giving special prominence to the fourth cause of obstipation, before mentioned.

One needs to see a demonstration of the existence of the normal valve, and then to see one that has been thickened and enlarged to appreciate and understand how these valves may not only induce constipation, but acutally become the obstructive agent in obstipation. Martin, Cooke, and the writer have on previous occasions very properly claimed that it is the office of the normal valve to beneficially retard the descent of the fecal mass. We know this proposition will hold good, because we have by practical work demonstrated that the function of the rectal valve is to support any matter that is voluntarily or involuntarily placed on its upper surface. We have frequently seen accumulations of feces, mucus, water, and after surgical operations, blood, retained in the pocket or on the valve shelf. For example, take a valve that we know to be one that obstructs; place a marble, a pledget of cotton, or some other substance on the upper surface of the valve, and it will remain there until removed. Or pass a hook over a valve, make traction at right angles to the valve and it will not be effaced. After section of such valve has been made by Martin's method, any similar foreign body will be retained on the valve with great difficulty.

One valve may cause all the trouble. Usually two are at fault, but all may be affected.

How may we know that it is a hypertrophy of the rectal valve that causes obstipation? By taking a complete history of the case, arranging subjective symptoms according to the law of cause and effect, make a presumable diagnosis, then examine or have an examination made with the proper method and instruments. The unequipped will find that it will be frequently impossible to confirm or disprove their diagnosis, as it is futile to attempt to see even the first valve with the older methods, even under anesthesia. One of the best surgeons in the State of Ohio attempted to explore this field with the finger, with the ordinary speculum without an anesthetic; then anesthetized the patient and employed the same means, still with a negative result. The patient was then sent to us. He was placed in the Martin posture, the Martin protoscope was used, bringing the entire field into view, from the levator and to the third chamber of the rectum, showing an anatomical coarctation of the first and second valves. Their propinquity was such as to offer almost a complete obstruction. The third and fourth were also found to be hypertrophied sufficiently to render a valvotomy necessary on all. This man's obstipation had continued for six years. A complete history of the case may be found in the *Columbus Medical Journal,* Nov. 20, 1899.

It is often difficult in this class of cases to be able to say just how much of the trouble depends on hypertrophy of the valve and how much is caused by the consequent angulation of the gut due to dilatation. Frequently valves are found which are complicated by an angulation and it requires considerable practice to be able to dispel the latter so as to properly measure the trouble caused by the former. No man can become so expert in this line of proctological work that he can essay to do away with the obstructive agent without proper tests and examination. But as a rule, even the inexperienced would have little trouble, with approved instruments and position, in being able to see the semilunar valves that span half and sometimes more of the circumference of the gut.

We recently saw and operated on a male patient for Dr. Morgan, of Washington, O., in the presence of his own physician, Dr. Shriner, and Dr. J. I. Davis, of Shawnee, Ohio. In this case there was a condition which would almost be analogous to the annular hymen, with which all are more or less familiar. There was a slight interruption anteriorly of about one-fourth inch. The operation was successful, the valve section radically relieved this patient and he is now no longer constipated.

Other men, Martin and Cooke especially, can doubtless give just such instances as having occurred in their own practice. If this case could only have been seen by doubting medical men, there could have been but one verdict coming from all—that the rectal valve does exist. Those who do acknowledge the existence of these valves and that they are normal structures, will doubtless be willing to agree that we may have a pathological condition existing at some time, such as an ulceration, edema or atrophy. If this can be granted, as it should be, it would not require much more work for the average mind to say that there can be a hypertrophy. If the normal valves retard the descent of feces beneficently, it is very plain that a valve increased in size to such an extent as to become pathological would be malicious in its hindrance of the descent of the normal contents of the bowel.

Symptoms.—The existence of hypertrophy of the rectal valves is evidenced by obstipation. This condition is, as its name would imply an obstructive constipation and presents "classic" symptoms, which we shall try to enumerate in a simple and clear way: (1) Chronic irregularity of bowel movement; (2) frequent, partially-successful attempts to evacuate the bowels; stool flattened laterally; (3) an inordinate desire for successful defecation; (4) a feeling of distension over course of colon, more marked in descending segment and at the colosigmoidal angulation, or over this point there is actual pain preceding an evacuation; (5) inability to pass gas freely and when gaseous distension is great, pain is felt over course of genitocrural nerve; aching in sacral region and down thighs; (6) mucus discharged independently or clinging to the fecal mass, clear, dirty, or sanious in character; (7)

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evidence of auto-intoxication, which may be, usually is, manifested by headaches, neurasthenia, melancholia, anemia, insomnia, morning temperature subnormal; 4 p. m., temperature, 99°-99.8° F., (8) the appetite is fitful, tongue bearing white coat which refuses to be removed by frequent washings.

The above eight classifications of subjective and objective symptoms would warrant a presumptive diagnosis of hypertrophy of the rectal valves. This may be proved to be correct or incorrect, as the case may be, by a painless exploration of the rectum with the proctoscope. This is accomplished by placing your patient in the Martin posture (modified knee-chest), having previously made preliminary examination to make sure that proctoscopy would be admissible. Select protoscope No. 1, insert obturator—warm instrument—place point against anus, order patient to bear down, and insert. Withdraw obturator, when rectum will be seen to balloon, exposing its entire mucous surface below first valve and the valve itself, when each valve may be successively and successfully exposed and tested.

The treatment of hypertrophy of the rectal valve may be palliative, in the shape of massage, enemas, diet, etc., or radical. Radical treatment consists in a division of the free border of the valve, which is rendered tense by a band of fibrous tissue. In some cases operated on by the writer the band offered almost as much resistance to cutting as cartilage would. After division of the free border is made, the incision should be continued down almost to the gut wall, great care being taken not to overreach the safety limit. Sutures should be placed one in angle of wound, one on either side, to avoid hemorrhage and union by granulation. A tampon of surgeon's cotton wool, dusted lightly with Monsel's powder, may or may not be introduced as a further guard against hemorrhage. After-treatment consists of daily lavage and strict attention to diet, allowing only those articles of food that do not produce gas or a solid stool. This operation is one of the most delicate in surgery and should not be undertaken by any one without proper equipment and thorough knowledge of its technic.

344 East Rich Street.

A STUDY OF SOME COMPLICATIONS AND SEQUELÆ OF TYPHOID FEVER.

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(Continued from page 945.)

Respiratory System in Well-Developed Stage.—Croupous pneumonia is a fairly frequent and a serious complication of typhoid fever, occurring during the course of the disease in 15 out of 829 cases at the Johns Hopkins Hospital. David Melville[126] noted pneumonia in 11 out of 295 cases occurring in the epidemic at Ladysmith, South Africa. In only one case, a double pneumonia, did death occur. There is a great diversity of opinion at the present time in regard to pneumonia occurring during the course of typhoid fever. It has been designated by the French writers as pneumo-typhoid, and is supposed to be due to the typhoid bacillus. Clinically it presents every evidence of an ordinary croupous pneumonia except for the finding of Eberth's bacillus in the sputum instead of the micrococcus lanceolatus. Osler evidently limits cases designated as "pneumo-typhoid" to those in which consolidation of the lung is present at the onset. Von Stühlern[54] succeeded in isolating the typhoid bacillus from the sputum of three patients. Horton-Smith[53] in the Goulstonian Lectures doubts the existence of such a condition. In his opinion the pneumococcus is also present and must therefore be regarded as the exciting cause; where it is not present its absence is due to the lateness of the examination when the coccus has disappeared. J. W. Smith[58] who had an enormous number of cases of enteric fever under observation during the South African War found both catarrhal and croupous pneumonia to be very rare and this in spite of the fact that the men were treated in tents.

Five instances of typhoid fever complicated by diphtheria are reported by Morris Manges[127]. Neither the membrane nor the antitoxin seemed to have any influence on the typhoid fever. He also reports one case in which the diphtheritic infection was implanted on Bouveret's ulcers.

These ulcers, first described by Bouveret in 1876 are symmetrically placed on the fauces, are oval in shape the long axis being parallel with the tonsil. They are surrounded by a reddish halo and have a greyish red or yellow base which is usually smooth.

Bronchitis is so commonly present that it may be said to be a symptom. It may exist from the beginning or appear during the course of the disease. In a series of 129 cases reported by Gillies[46] bronchitis existed at the beginning in 18.5 per cent., and developed during the course of the disease in 11.6 per cent.

Among the respiratory symptoms noted by Billet[128] in 152 cases bronchitis occurred in 55 and laryngitis in 15.

Congestion at the bases of the lungs is as a rule a late manifestation due to enfeeblement of the heart. Pulmonary infarcts with resulting pleurisy are among the rare complications. This subject is considered more at length under the head of typhoidal pleurisy.

Typhoid Pleurisy.—In a previous essay by one of the writers the statement was made that pleurisy was an extremely rare complication of typhoid fever and that when present was due to an infarct, gangrene or abscess. Several writers since then have made the same statement in re-

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porting pleurisy occurring as a complication. While it is undoubtedly not very common, still pleurisy complicating typhoid fever cannot now be said to be rare and furthermore many cases recently reported indicate that it may arise independently of a gross lesion in the lung. It is not usually met with during the early stages but develops as a rule about the third week. If effusion takes place it is quite apt to be hemorrhagic or purulent in character. It is held by many that pleurisies occurring as a complication to typhoid fever are set up by the Eberth bacillus and that that germ may be demonstrated in the fluid. The term pleuro-typhoid is applied to those cases in which the onset of the typhoid is coincident with an acute pleurisy due to the bacillus typhosus. Osler in *Studies No. II.* has reported a case of this kind. Two recent cases are reported from Dr. Chauffard's[59] clinic with an acute onset manifested by pain in the side and a rapidly forming effusion. On aspiration a hemorrhagic fluid was obtained containing an abundance of the typhoid bacillus. Labiche[60] was able to collect but 10 cases showing the bacilli from the literature. Gordinier and Lartigau[61] have also recorded a case in which removal of a hemorrhagic effusion gave a pure culture of the typhoid bacillus. Two cases of hemorrhagic pleurisy due to Eberth's bacillus are reported by Longuet[129]. Horton Smith,[58] in opposition to these views, raises the same objection to pleuro-typhoid that he does to pneumo-typhoid and is inclined to doubt its existence.

Remlinger[130] states that pleuro-typhoid may occur as the first symptoms of typhoid fever; as a complication late in the disease; that it may rarely occur not as a result of the Eberth bacillus but of some secondary infection; and still more rarely it may arise in the terminal stages of acute phthisis with no signs of typhoid fever at autopsy. Of this latter group two cases have been reported.

Instances of pleurisy following a pulmonary infarction are reported by Galliard[62] and Rothe.[27] In each instance the onset occurred during the third or fourth week, was sudden and was attended by pain and bloody expectoration. Widal and Merklen in six months observed no less than ten cases of pleurisy complicating typhoid fever. Three of the cases are reported in detail, all showing the presence of the typhoid bacillus in the effusion which in ten of the cases was hemorrhagic. Gillies[56] in 129 cases observed pleurisy in seven instances, 4 developing an effusion. Osler in *Studies No. III.* states that simple fibrinous pleurisy is the most common form. It appears in the side or at the base and is not followed by effusion. In seven cases a dry pleurisy was marked while in nine a more positive friction rub was demonstrable. He had one case in the last series which developed a purulent effusion during convalescence. Cultures from this effusion gave a pure growth of the bacillus typhosus. Remlinger[48] found that among 315 cases death has been caused in five instances by pleurisy with effusion. In three instances the effusion was hemorrhagic, one purulent and one serous.

Temperature in the Well-Developed Stage.—Hypothermia, according to Osler, is a condition which is very common in two diseases, namely: malaria and typhoid fever. Persistent subnormal temperature has been occasionally observed throughout the course of typhoid; the first two instances being recently reported, one by George Boody,[41] the other by Larquier,[63] and a third by Etienne[131]. Three instances were insane patients. Just as croupous pneumonia with overwhelming toxemia is often attended by a low temperature, so may the septicemic typhoid have a temperature which never goes above 101.5° F., although as a rule hyperpyrexia is common in this condition. Sudden and decided drops in temperature are of frequent occurrence in typhoid fever. They may occur spontaneously during the period of remission during the third or fourth week, as an indication of hemorrhage and as an indication of perforation with impending peritonitis. Then, too, they occur as an effect of the tub bath. It must be borne in mind that in a certain porportion of cases the temperature rises instead of drops with hemorrhage. In children, the temperature instead of conforming to the type of that of the adult is apt to be remittent in character. Blackader[73] found this to be the prevailing type of temperature in the majority of 100 cases analyzed by him. A. Billet[132] in reporting 152 cases occurring in soldiers states that 111 were severe and of these 75 per cent. had hyperpyrexia.

Hyperpyrexia as a rule occurs in the septicemic type of the disease. The temperature may become astonishingly high, reaching 108° F., as in a case reported by H. G. Turney,[64] or it may remain persistently high (104°-105°) for weeks. In two cases reported by de Grandmaison,[3] the temperature was not only high but markedly irregular. Sudden rises of the temperature during the course of the disease usually indicate some secondary infection or infection of some other organ by the typhoid bacillus, as the lung, pleura or gall-bladder. The febrile temperature may extend over an extraordinary long period of time, thus Murrell[65] reports a case in which the temperature lasted for 81 days. H. E. Belcher also cites a case in which 105 days elapsed before the temperature finally became normal. In this instance, however, there were two relapses. Hawkins and Thurston[133] report a girl aged eleven years who had fever for one hundred and fourteen days. This case was prolonged by perforation, with operative recovery, on the forty-first day and subsequently by a parotid abscess and otitis media.

It would seem that exceptionally high degrees of fever are of serious significance and generally indicate severe toxic symptoms. On the other hand, as has been pointed out, a low fever with evidences of marked infection is of even graver significance. Anything which markedly alters the course of the fever either as a rise or a drop,

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is of serious significance as it almost invariably means some complication.

Skin in the Well-Developed Stage.—Aside from the typical rose rash of typhoid numerous instances of variations from the ordinary type and other cutaneous disturbances are being constantly reported. Osler in *Studies No. III.* noted 18 cases in which the rash was petechial from the start, or the rose spots during the course of the disease became petechial in character. In 93 cases he observed the rash in other regions than the chest, back and abdomen. Melville,[134] recording 295 cases, states that in 40 per cent. there was no eruption, while in 20 per cent. the eruption was profuse, extending over the extremities. Of the disturbances occurring with the greatest frequency we must consider boils as probably the most frequent skin lesion although their tendency is to appear during convalescence rather than during the height of the disease. Busquet[66] reports a case in which boils first appeared on the twenty-fourth day and in the course of a few days spread all over the body. Pus from the boils gave a pure culture of typhoid bacilli.

Herpes labialis has been looked upon as exceedingly rare in typhoid. Inasmuch as the condition usually occurs at the onset, the possibility of malaria is always suspected. Osler[47] makes the statement that herpes was noted in 29 cases out of his 829 cases, and probably occurred in a great many more. Rose and morbilliform rashes are by no means rare and seem to occur with greatest frequency in children as is shown in what we have to say about children suffering from typhoid fever. Weill and Lesieur[16] describe a class of cases occurring among children in which the eruption in six was exanthematic in character. Erythematous rashes of various types have been reported by different observers, appearing as a rule in the later stages of the disease. Desquamation quite often occurs as these rashes fade. Remlinger[45] observed six cases of severe infection in which an erythematous rash occurred during the decline of the fever and in all of which desquamating scales were intermediate between those seen in scarlet fever and measles, and occurred for the most part on the lateral aspects of the chest and abdomen. Remlinger inclines to the view that the desquamation is the result of trophic disturbance and is analogous to alopecia. Remlinger[48] has also described another type of eruption of which he records 12 cases, all soldiers, and has collected 49 other cases. This rash is erythematous in character and may exist in two forms; one a scarlatiniform or a rubeolo-scarlatiniform erythema. The first is rare and of very serious significance. It may appear during the fastigium of hypertoxic cases preceding death by but a day or so; or it may appear during the convalescence of cases of moderate severity. In this type desquamation takes place before the eruption fades and death is apt to follow from cachexia or convulsions.

The rubeoloform eruption is much the most frequent, occurring in 31 of the cases collected, while in 14 it was mixed, and in but 4 was the eruption purely scarlatiniform. This rubeoloform eruption may also occur either at the fastigium or during convalescence. When it occurs at the fastigium it is accompanied by a rise in temperature, vomiting and diarrhea, and gives the impression that a secondary infection has taken place. It is most abundant on the extremities, especially about the flexures; the face is also involved while the body is but slightly affected. It is transient in character and has not the grave significance of the scarlatiniform rash although it sometimes precedes death and to a certain degree announces the approach of death. When this form occurs during defervescence, it is occasionally accompanied by a slight rise in temperature, which is brief and fades as the eruption fades. This form is benign and favorable.

J. M. DaCosta[67] in writing on this same subject takes a contrary opinion to that of Remlinger. He states that the scarlatiniform erythema does not necessarily give an unfavorable prognosis; that it is not followed by desquamation, and that it is not followed by albuminuria. In his opinion the rubeoloform rash offers greater difficulties in diagnosis, and it is sometimes almost impossible to differentiate it from true typhus fever, or to be absolutely sure a concurrent attack of measles is not present. He was compelled in one instance to isolate a case for fear of typhus fever. As a rule this rash can be told from measles by the absence of catarrhal symptoms, crescentic arrangement, coarseness, and shotty feel of the latter. In DaCosta's opinion these rashes are of nervous origin the result of irritation by infecting material. He did not believe that they had any prognostic significance whatever. Engelbach[68] records a case with a general scarlatiniform and rubeoloform eruption. The case had a complicating pericarditis. He states that he has seen similar cases and believes them all to be due to secondary inflammations.

In the later stages of the disease sudamina and miliary eruptions are of frequent occurrence due to sweating. Sudamina in the inguinal region occurring as an early manifestation has been observed by Vinke.[69]

In the previous essay on typhoid fever reference is made to a type of typhoid fever described by Jacoud[70] and called by him sudoral typhoid fever. He has recently reported more cases of this variety but does not go into detail as to the particular cases. Among the unusual eruptions noted in the Johns Hopkins Hospital may be mentioned urticaria, pemphigus, ecthyma and a papular rash. Erysipelas, a rather unusual complication during the height of the disease was noted in three instances by J. W. Smith.[58] One of his cases developed a second attack of the disease. Remlinger[57] in an investigation as to the cause of death in 315 cases noted erysipelas in one instance. In a group of 152 cases Billet[135] noted erysipelas in 3 instances.

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Purpura has always been regarded as an extremely rare occurrence in typhoid fever but during the past two years no less than 17 cases have been reported. Nichols and Learmonth[71] in reporting a case have made a thorough analysis of the reported instances of hemorrhagic typhoid fever. Owing to the obscurity of these cases the writers have suggested that the name hemorrhagic diathesis be applied to this condition. The purpuric manifestations are not ushered in by any special chain of symptoms. The hemorrhage is not sudden but consists of oozing from the mucous surfaces and the appearances of petechial or ecchymotic eruptions on the skin. Epistaxis alone is not to be considered as constituting the purpuric condition. As a result of the bleeding a grave and severe form of secondary anemia often results. Nénoff[72] in a study of 11 cases states that a severe typhoid infection alone or an associated secondary infection is capable of producing the condition. The prognosis in this class of cases is extremely grave. Blumer[6] has reported the case of a child which is of extreme interest from two points of view: first, the infection occurred in utero; second, shortly after birth the child manifested purpuric symptoms, bleeding from the nose, gums and vagina. Death occurred on the ninth day.

The Genito-Urinary System in the Well-Developed Stage.—Albumin in the urine during the attack of typhoid fever while it may be the result of an acute nephritis, is more usually a result of the eliminations of the toxins. In other words, a febrile albuminuria. It would seem that the exanthematic type occurring in children described by Weill and Lesieur[16] is more apt to be associated with albuminuria. In 58 cases they noted its presence in 25, while in 100 cases reported by Blackader,[73] slight albuminuria was noticed but 5 times. Gillies[46] found acute nephritis developing during the course of the disease in 4 cases out of 86. Blocker[74] reports a case with slight hematuria in the third week associated with a large amount of albumin and casts. Several days later an ulcerative endocarditis was made out. It is highly probable in this case that the acute nephritis was set up by an infarct. As was pointed out in the section on hemorrhagic typhoid fever, bleeding from the kidney may manifest itself as a part of a general purpuric manifestation. Young states that while from 20 to 40 per cent. of all cases of typhoid fever show evidences of a bacilluria during the acute or convalescent stage, but very few have pyuria or definite signs of a cystitis. Cystitis, the result of systemic infection by the typhoid bacilli, is found as a rule as one of the after-effects of the disease.

Orchitis and epididymitis while occasionally arising during the course of the disease, occur more particularly during the convalescent stage and will be spoken of later. It should always be borne in mind that during the height of the disease retention of urine is quite as apt to occur as incontinence. For this reason the bladder should be carefully examined at each visit. One should not be thrown off his guard by the dribbling of retention.

An extremely rare complication is reported by Musser[75] and Kelly, that of hemoglobinuria. The presence of hemoglobin in the urine lasted for seven days and the case ended in complete recovery. Remlinger[57] also reports a case of hemoglobinuria. In his case hemoglobinuria associated with severe icterus appeared the day of death. Osler's[47] statistics show strikingly the extent of febrile albuminuria in typhoid fever—75 per cent. of 829 cases. Tube casts, granular and hyaline occurred in 68 per cent. With the appearance of large amounts of albumin, blood and epithelial casts the condition must be considered one of acute nephritis. Osler states that this nephritis is peculiar in that it is not associated with dropsy, and that it invariably clears up. The presence of albumin and a few hyaline or granular casts need cause but little concern.

Nervous System in Well-Developed Disease.—The headache which is present during the prodromal stage and first week of the disease as a rule disappears and is replaced by delirium of the low muttering type, or it may be active and noisy. Active and violent delirium may appear suddenly and without warning as in a case reported by W. B. French.[15] The patient was suddenly seized on the twenty-fifth day, as fever was declining, with violent delirium and suffered a relapse. Restlessness in sleep or insomnia is not of infrequent occurrence during the second and third weeks. The headache, however, may be persistent and aggravated throughout the attack. Inflammation of the nerves during the height of the disease is extremely rare; the condition coming on as a rule during the period of convalescence. It would seem from a review of the cases occurring in the well-developed stage of the disease that neuritis is localized rather than general,[76] and is more apt to affect the nerves associated with the eye. Braun has seen three cases in two of which the right abducens was involved and in the third the paralysis was bilateral. In a fourth case there was optic neuritis. Polyneuritis was observed by Garniez[77] once, the condition developing on the fifteenth day. He was able to find but fourteen cases in the literature. In a research of the literature Dufour[136] found three cases of catalepsy. All three occurred in young women free from hysteria and neurotic history. In each instance the cataleptic attitudes were assumed between the seventeenth and twenty-first days. Dufour uses the term catalepto-catatonic to designate the cataleptic attitudes, with stupor, a symptom of severe typhoid fever.

Convulsions occasionally develop, as a rule without any ascertainable cause and rarely as an indication of hemiplegia.[47] As was pointed out in the section on the arterial system hemiplegia is almost invariably the result of embolism, thrombosis or hemorrhage. This condition is by

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no means usual. Four cases have been recently reported, three by Osler[47] and one by Auden;[78] the latter's case developed as early as the eighth day with a convulsive seizure. While aphasia often exists as a part of a hemiplegic condition it sometimes arises without the presence of any organic lesion to account for it. It has been noted in a previous essay by one of the authors that simple aphasia usually occurs in children. Such was the case in two recently reported cases by Da Costa[79] and Samuels.[20] Billet[137], however, met with six cases of aphasia among 152 soldiers suffering from typhoid fever.

Among the unusual complications may be mentioned a case of bulbar paralysis of sudden development (Laborde);[60] three cases of tetany (Janeway)[17] and acute ascending hemorrhagic myelitis arising on the ninth day with death in 18 hours (Schiff).[61]

The reflexes during the course of typhoid fever have been investigated by Remlinger[82] in a study of 100 cases. In 29 cases the reflexes were absent, in 22 were normal, in 17 diminished, and in 32 they were exaggerated. Ankle clonus was detected in 21 cases; patellar clonus in 8; and the contra-lateral reflex twice. He concluded that there was no constant relation between the state of the deep reflexes and the gravity of the patient's condition. But in severe infections the reflexes tend to become exaggerated and that abolition of the deep reflexes is to a certain extent a favorable prognostic sign.

The Alimentary Canal in the Well-Developed Stage.—A rare manifestation is reported by Barksdale,[23] that of gangrenous stomatitis involving the left cheek of a mulatto child during the second week. A few days later the opposite cheek was attacked, causing death by exhaustion. Parotitis is not a usual complication occurring in but 1.4 per cent. of a large series (829) reported by Osler.[47] In two of his recently reported cases the sublingual glands were involved and in another a double parotitis occurred preceding an orchitis. Among 86 cases reported by Gillies,[46] parotitis occurred but once. The condition usually develops during the third week and occasionally as early as the second week.

Glossitis is a very rare complication. Thompson[44] reports a woman who suddenly, during the fourth week, developed a firm, non-fluctuating and tender swelling on the left side of the tongue. In a short time the right side became swollen. Several small ulcers were found in the dorsum of tongue, but no suppuration occurred. Ulceration of the fauces and palate has been described several times during the last few years. Schaefer[83] believes that ulceration at these points exists in fully 20 per cent. of all cases. In the great majority of cases there is no pain or discomfort. Hence the throat is never examined. While a deep form of ulceration has been described before, Schaefer asserts that the existence of a superficial variety has never been adequately recorded. In most cases the superficial ulcers appear during the second week, although they may appear earlier or later. They are symmetrically disposed, being either single or multiple, near the junction of the anterior pillar with the soft palate. The base is grayish yellow, smooth and either punched out in appearance or surrounded by a zone of hyperemia. Attention is usually called to them by some pain and tingling.

Two remarkable cases of stricture of the esophagus are recorded by W. C. Dugan[84] occuring in a house epidemic in which the mother and three sons were successively stricken with the disease. The mother and oldest son died. During convalescence, one of the survivors complained of pain in the chest and difficulty in swallowing. A few weeks from the first evidence of this trouble there was complete obstruction to a bougie. This patient died. In the survivor no trouble arose for two or three years when he developed complete obstruction of the esophagus and was operated on with a good result. Two additional cases have been reported, one by Mitchell,[47] the other by Summers.[85]

Occasional vomiting occurs during the course of typhoid, but as a rule it is uncommon. Vomiting of blood as a part of a hemorrhagic condition is seen at times and in rare instances is independent of any such condition, as in a case reported by Osler.[47] Meteorism is a common manifestation in adults, occurring in 20 per cent. of 129 cases by Gillies.[56] It is looked upon as an indication of rather deep ulceration. In this connection it may be said that, according to Stowell,[9] meteorism is not usual in children. It is well known that in the very young perforations and hemorrhage are not common. All reports on typhoidal fever at the present time indicate that the profuse diarrhea of several decades ago has disappeared and that constipation is quite frequently if not more commonly met with.

Perforation, that most dreaded of all the complications of typhoid fever, is most commonly seen in the third week, although it may occur as early as the second, or as late as the fortieth day. Finney[47] has examined a large number of statistics which show that perforation occurs in between 1 and 2 per cent. of all cases. Perforation is the cause of 10 per cent. of all deaths. F. W. Smith found perforation of very common occurrence, taking place in nearly one-third of all fatal cases under his care. The most usual site is within the last 24 inches of the ileum, occasionally in the large intestine, and still more rarely in the appendix. The perforation is usually single, but may take place in two or more places. Celos[86] has seen a case in which perforation occured twice in the transverse colon. During the past few years there has been a decided tendency towards surgical interference in cases of perforation with the result that many cases heretofore inevitably doomed to death have been saved. From a purely medical standpoint the most important of recent contributions on this subject is by Osler.[87] He states that we must change our views of perforation very materially.

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What have hitherto been looked upon as symptoms of perforation are pain, limitation of the respiratory movements of the abdomen, extension of liver flatness, presence of blood or sloughs in the stools, pallor, drop in temperature, hiccough and a stationary or rising leucocytosis. Osler does not believe that the so-called preperforative stage of Cushing is of much value. Perforation may be caused by external trauma as in a case reported by Andre.[88] A man suffering from ambulant typhoid was kicked in the abdomen by a horse. Apparently there were no ill effects from the kick itself, but five days later perforation and death occurred, presumably from the trauma received. The fact that no post-mortem was held throws doubt upon the idea that this was the real cause of death. Remlinger[57] found three perforations in four cases and four perforations in two others. Death from perforation in the majority of cases occurs between the twentieth and twenty-fifth day.

The most frequent time of hemorrhage is during the second or third week although Remlinger found in investigating a large number of cases that death most often occurred, as a result of the accident, between the twenty-fifth and twenty-eighth day. Hemorrhage while decidedly more frequent than perforation is far from being so fatal. While nearly every case of perforation will probably die without operation, the great majority of those having hemorrhage recover. If we compare the results in large numbers of cases we can arrive at conclusions as to the relative frequency of these two accidents. Thus among 829 cases in the Johns Hopkins Hospital there were 50 cases with hemorrhage and 23 with perforations; in 215 cases reported by Gillies[46 56] during the past two years, perforation occurred six times, hemorrhage 21 times. On the other hand, in some epidemics the number of perforations are the more numerous; this was the experience of J. W. Smith.[58] Hemorrhage may occur but once or may recur at intervals, and while usually unattended by perforation, it sometimes precedes that condition. It is generally spontaneous but may follow enemata; ten such cases are recorded by Osler in *Studies No. III.* A sudden drop in temperature and rapidity of the pulse rate are looked upon as strongly indicative of hemorrhage but the pulse may remain unchanged. Among 23 cases recorded by Osler, in six the temperature remained unchanged. An unusual source of hemorrhage is reported by S. G. Longworth[138]. A woman died as the result of three profuse intestinal hemorrhages. At autopsy the source of the hemorrhages was found to be the sigmoid flexure which presented a hemorrhagic and infiltrated appearance. Hemorrhage from the bowel during the course of typhoid, as a rule, means but one thing; occasionally, however, enterrhagia may occur, the result of a purpuric tendency. When it does it is usually associated with bleeding from some of the other mucous surfaces. Instances of this kind are reported by Gillies[56] and Pinard.[18] Hemorrhage in children is of rare occurence, and the younger the child the less liability is there to this accident. Blackader[10] in a series of 100 cases and Barbier[12] in a series of 47 cases make no mention of this accident having occurred. Stowell[9] observed hemorrhage in three cases, two at twelve years and one at fifteen.

Typhoid Without Intestinal Lesions.—This is a subject that has recently been attracting considerable attention. Flexner[47] has reviewed the literature and collected some twenty cases in which individuals showed every evidence of typhoid fever, and yet at post-mortem no intestinal lesions were found. Unless this fact is borne in mind the pathologist can readily overlook the true condition. Such cases require bacteriological investigation to definitely determine the truth of a diagnosis. Flexner believes that in these cases, just as in ordinary typhoid fever, the infection takes place through the intestinal tract. He points out the well-known fact that the tubercle bacilli pass through a mucous membrane and invade the adjacent lymphatic gland without leaving any lesion in the mucous membrane. In view of this fact it is perfectly reasonable to suppose the same thing may be true of the bacillus typhosis. Picchi[89] reports two cases of typhoid occurring in a house epidemic without the characteristic lesion but is inclined to reject fourteen of them for lack of conclusive evidence. He takes the same view as Flexner, that the primary invasion is through the intestinal tract. Ophüls[90] adds a case in which a complete bacteriological examination showed undoubted typhoid in the absence of intestinal lesions. A remarkably interesting case is reported by Opie[91] of a child, ten years of age, who in addition to the ordinary manifestations of typhoid had marked purpuric symptoms including bleeding from the bowel. The intestinal bleeding was supposed to be from the ordinary source and yet post-mortem examination revealed no ulceration. The Peyer's patches and solitary follicles were slightly swollen and pigmented. The bleeding was thought to come from the stomach which showed numerous ecchymotic areas.

Circulation in the Well-Developed Stage.—Gradual weakening of the first sound and increased rapidity of the heart's action occurs in practically all cases of typhoid in which the infection is at all severe. Guyard[30] in a study of typhoid myocarditis states that even where the condition cannot be demonstrated clinically that myocardial degeneration can be known to exist histologically as a rule, in all fatal cases. Typhoid myocarditis manifests itself by a sudden oppression, cyanosis, dyspnea, tachycardia and fetal rhythm. Guyard, however, believes that weakening of the first sound and pulse rate of over 100 justifies one in making the diagnosis. In a study of the causes of sudden death in typhoid fever Remlinger[57] attributed it to cardiac lesions in 11 out of 38 cases. Involvement of the endocardium and pericardium is extremely rare;

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thus Horton Smith[53] found but two cases of endocarditis and ten of pericarditis in an analysis of the autopsy records of St. Bartholomew's Hospital for the past thirty years. The endocarditis is usually malignant and may be the result of a secondary infection or be caused by the typhoid bacillus.

In the previous essay by one of the authors mention was made of a form of typhoid described by Bernheim and designated "forme cardiaque," the chief signs of which are asystole, feebleness and tachycardia. Bernheim was of the opinion that the condition was due to some derangement of the cardiac nerves rather than an affection of the myocardium. Gabbi[28] reports a case of this kind which was also complicated by hysteria.

Involvement of the arteries is far more rare than disease of the veins. It is highly probable that the arterial damage is due to direct bacterial infection which favors thrombosis with a resulting hemiplegia or still more frequently gangrene. The gangrene usually involves one or both of the lower extremities. Of 13 cases of arteritis recently reported gangrene of the lower extremities occurred in 8. J. W. Smith[97] observed 6 cases of gangrene in the South African Hospitals. Phlebitis is undoubtedly the most common lesion of the vascular system and as a rule is of no serious consequence. J. W. Smith states that it occurred very frequently among the soldiers under his care in South Africa, but never led to any untoward event. Occasionally, however, an infarct may take place in the lung or even more serious damage may result as in a case reported by Dettling and Remlinger[92] where pneumothorax resulted. The veins most commonly affected are the femorals and it is well known that the left is more commonly affected than the right. The iliac, saphenous and brachial veins have also been reported as involved.

As the result of the secondary anemia developing during the course of the disease functional disturbances are frequent during the later stages. A hemic murmur heard either at the apex or base of the heart and a soft compressible pulse are often noted. It would seem that these murmurs are more frequent in children than adults as Blackader[73] noted them in 22 out of 100 cases and Barbier and Herrenschmidt[12] in a third of 47 cases, while Gillies[56] among 129 adults observed them in but 11 cases.

The Blood During the Well-Developed Stage.—Thayer,[47] in a study of 829 cases occurring in the Johns Hopkins Hospital during the past eleven years clearly shows the gradually progressive secondary anemia which occurs as the disease progresses; the existence of leucopenia, and the presence of a leucocytosis in complications such as abscess, phlebitis or peritonitis. In a study of the different counts it was found that the mononuclear cells were increased while the polymorphonuclear cells and eosinophiles were reduced. While leucocytosis was present after hemorrhage it was of no value in anticipating the condition. The most notable and important fact connected with the blood is the progressively increasing number of the colorless cells following perforation. In this connection it must be borne in mind that the number of white cells in typhoid fever is reduced so that a count of 8,000 per cubic millimeter is often of grave significance. Osler,[93] Finney and Cushing[47] in recent articles call attention to the importance of making hourly estimates of the white cells in cases of suspected perforation. If the white cells show an increase from hour to hour operation should be performed at once, but preperforative leucocytosis so called cannot be relied upon. C. R. Russell[139] in a study of leucocytosis in perforation comes to the following conclusions: leucocytosis is the general rule but varies and may be delayed until peritonitis sets in or may be entirely absent. Leucocytosis may be present and perforation absent. With distinct leucocytosis even in the absence of sings of perforation operation is justifiable. Morse[140] believes that owing to the diminished number of leucocytes in typhoid fever the presence of leucocytosis should make one wary of making a diagnosis. He also states that careful watch of the leucocyte count enables the physician to anticipate complications.

The presence of the typhoid bacillus in the blood has been demonstrated in a number of cases after death, but as yet very few cases are on record in which they have been found during life although recently excellent researches have been carried out by American investigators whose papers are still unpublished. Horton Smith[53] believes that with improvement of technic it will be possible to show their presence in all cases during life. He is inclined to believe that the bacilli always gain access to the blood stream, but are rapidly deposited in various organs or are destroyed as the blood is a bad medium for their existence. De Grandmaison[3] succeeded in obtaining the organisms in pure culture from two cases of septicemic typhoid fever.

The value of the Widal reaction is so well established that little need be said concerning it. In all recent reports covering large numbers of cases it has been present in from 98 to 99 per cent. Making the Widal test as a routine practice is well illustrated by Libmann,[141] who cites a number of cases in which from the history typhoid fever was unsuspected until a positive reaction was reported, yellow and degenerated. Morse[7] in a study of fetal and infantile typhoid fever found that the reaction occurred in infantile forms of typhoid fever as well as in the adult. In these cases the agglutinating power is either transmitted from the mother to the child through the placenta or it may be formed in the child in response to toxins transmitted from the mother.

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(To be concluded.)

MEDICAL PROGRESS.

The Hair in Typhoid Fever.—H. M. LITTLE (*Montreal Med. Journ.*, May, 1901) has examined sixty-two cases some months after their typhoid, and noted the results as follows: Thirty-five had their hair cut in the hospital, and in only seven did the hair subsequently fall out. Of these seven, four were cut late. The ultimate result in all was a thicker growth of hair than ever before, and in two cases it was thought to be coarser. Twenty-seven did not have the hair cut, and in only three was there no falling out. Ten had to have the hair cut later to prevent baldness. In seven other cases not cut, four are very thin, two still falling, and one, before curly, is now thin and straight.

Typhoid Perforation and Leucocytosis.—C. K. RUSSEL (*Montreal Med. Journ.*, May, 1901) draws the following conclusions from cases observed: In perforation it is the rule to have a leucocytosis, but the degree may vary within wide limits. The leucocytes, though generally appearing early, may not be at all marked until the general peritonitis and collapse have supervened. There may be an utter absence of leucocytosis with marked perforation and peritonitis—in fact, the white cells may be lower than normal. With typical signs of perforation and a definite leucocytosis, there may be no perforation and an operation may be performed unnecessarily. A marked leucocytosis may occur in complications other than perforation, as bronchitis, cholecystitis, otitis, etc. With pain and tenderness in the abdomen, coming on suddenly during an attack of typhoid fever, and in the absence of evidence of other complication, a distinct leucocytosis even without other signs of perforation, justifies an exploratory operation, for if there is perforation delay is fatal.

The Widal Reaction.—From time to time doubts are expressed as to the diagnostic function of this test, and authoritative statements are made depreciating its value. At the Johns Hopkins Hospital, of cases certainly typhoid, 99.6 per cent. gave a positive reaction, and at the Royal Victoria Hospital, the reaction was present in all but one of 151 cases. To ensure success, H. M. LITTLE (*Montreal Med. Jour.*, May, 1901) has found that the cultures require constant care and the most favorable conditions for bacteriological work. The proper preparation of the culture is the greatest of all difficulties; it should be acid, preferably exactly 1.5 per cent., for with alkaline media the bacilli may clump spontaneously. The author has always used a double control, and has taken as his standard for the reaction, *clumping with relative slowing of bacilli.* Of interest are the statistics of the author of cases which gave reactions in the hospital during the previous three and one-half years, 75 of which were looked up by him and re-examined. Of 42 cases tested within a year of the disease, 24 were positive with average age of twenty-five years, and 18 negative averaging sixteen years; of 13 cases within two years of the disease, 5 positive averaging twenty-nine years, 8 negative averaging twenty-two and one half years; of 11 cases within three years of the attack, 5 positive averaging twenty-one years, and 6 negative averaging twenty-five and one-half years; of 9 cases within three and one-half years, 3 positive averaging forty years, and 6 negative averaging thirty-one years. No definite data seem obtainable whereby one can associate the duration of the reaction with any special feature of the disease. Of interest is the not unusual absence of the reaction in late stages of the uncomplicated cases, when we are assured that living bacilli must still be present in the tissues.

Colon Bacillus as a Cause of Diphtheria.—SEITZ (*La Méd. Moderne*, May 22, 1901) describes a case in which three days after chill and fever with symptoms of angina, a false membrane appeared on the right tonsil. Antitoxin was administered and bacteriological examination ordered. The patient promptly died in collapse. Examination of the membrane by microscope and culture revealed nothing but colon bacilli. The case was evidently one of diphtheroidal affection of the throat due to the colon bacillus, and is analogous to pseudo-membranous inflammation of the intestine due to the same cause.

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Phosphergot as a Tonic.—LUTON (*Jour. de Méd. de Paris,* May 26, 1901) recommends for its value as a tonic a "phosphate of soda and of ergot." Its results have been favorable in melancholia, hysteria, adynamia, and chlorosis. It overcomes the great constitutional depression of the algid stage of certain fevers. Sodium phosphate alone has been employed heretofore in the cerebral torpor of senility, but the combination with ergot increases its efficacy. The general indication for the administration of "phosphergot" is functional debility of nervous origin.

Surgery of the Pancreas.—MAYO ROBSON (*Prager med. Wochenschr.,* May 16, 1901) reports forty cases of operation for pancreatic disease. Inflammation may confine itself to the pancreatic duct, or may be interstitial and chronic. The acute forms are manifestations of infection. Chronic pancreatitis is often mistaken for carcinoma, which on cut section it macroscopically resembles. Where chronic inflammation originates in the duct it is invariably an accompaniment of gall-stones. Cases in which there occur jaundice, weakness, emaciation, paroxysms of pain and fever, and which cannot be relieved by medication, demand surgical interference. Ceccherelli points out the advisability, in purulent or gangrenous pancreatitis, of postponing operation until the subsidence of the acute period. In operating, three routes offer themselves, namely, the lumbar extraperitoneal, the transpleural, and the median subumbilical.

Effect of Football Training on the Heart.—E. A. DARLING (*Boston Med. and Surg. Jour.,* June 6, 1901) made routine examination of seventeen members of the Harvard football squad. Fourteen of the men showed no disturbance of cardiac action, although in all there was some hypertrophy. In two cases temporary murmurs were detected, and in one instance only was there evidence of a slight organic lesion of the mitral valve. The last case showed irregularity of rhythm after two weeks of hard practice, but three months after the close of the season the pulse was 76, regular and normal. Examinations after a hard game showed increased area of dulness, increased pulse-rate up to 150, roughened first sound at apex and very often a faint blowing systolic pulmonic murmur. In vigorous hearts these signs were of very brief duration. While permanent hypertrophy results from long periods of training, Dr. Darling does not consider this any more undesirable than a corresponding hypertrophy of the biceps muscle.

Surgical Treatment of Active Gastric Ulcer.—Surgical interference is demanded, according to F. B. LUND (*Boston Med. and Surg. Jour.,* June 6, 1901), in all cases of perforation. Where the symptoms do not yield to medical treatment after a reasonable period, excision of the ulcer or gastro-enterostomy should be performed; operation should not be delayed until the exhaustion of the patient renders surgical intervention dangerous. Early operation is advisable where frequent bleeding, even if slight, threatens to produce anemia or exhaustion. Copious hemorrhage if repeated calls for active interference.

Thiocol in Pulmonary Tuberculosis.—The influence of thiocol has been carefully studied by MARAMALDI (*Gaz. internat. di med. pratica,* No. 8) who finds that it causes marked amelioration of the symptoms of pulmonary tuberculosis. In cases not too far advanced temperature is reduced to normal, the cough becomes less severe, the sputa are reduced in quantity, the number of bacilli is diminished, the patient's appetite improves, and there is a gain in weight and strength. While these changes are noticed in the early stages of the disease, they are not obtained in the stage of cavity formation. Thiocol is given in divided doses aggregating 1 to 3 grams daily. Such doses control diarrheal manifestations and night-sweats almost invariably. As an adjuvant to hygienic and dietetic treatment, the drug is recommended in the class of cases referred to.

THERAPEUTIC HINTS.

Blenorrhea Neonatorum.—The dropping of a solution of nitrate of silver into the eyes is too severe for routine practice, but may be resorted to where infection is positive. Protargol, the application of which should always be preceded by thorough cleansing, is more penetrating, less caustic, and quite as efficient. During the first or catarrhal stage, C. D. WESTCOTT and B. PUSEY (*Amer. Jour. of Nursing,* June, 1901) use iced compresses for one hour twice a day, gentle flushing with warm boric-acid solution or 1-2,000 permanganate of potash, and the daily application of ten-per-cent. protargol. Silver nitrate and mercuric bichloride are best omitted as too irritating. When pus forms, the eyes should be cleansed frequently, and the lids anointed with sterile vaseline to prevent agglutination and the retention of the discharge. A twenty-per-cent. protargol solution, preceded by boric acid or permanganate, may be dropped in twice daily. At each cleansing, the shreds of mucus should be flushed out of the folds of the conjunctiva, or removed by cotton on the end of a toothpick. The slightest haziness of the cornea, or edema of the ocular conjunctiva demands the removal of the cold compresses and the substitution of hot fomentations, which are removed every night for fifteen minutes in each three hours. Atropine should be dropped in the eye, and an edematous conjunctiva scarified by radial incisions. The general nutrition must be looked after closely, and the baby must not be treated at intervals so frequent as to interfere with its proper rest. The chronic conjunctivitis following acute gonorrheal may be treated with a one-per-cent. solution of protargol or one-half-per-cent. solution of zinc sulphate.

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SATURDAY, JUNE 22, 1901.

THE SMALLPOX SITUATION ONCE MORE.

IN discussing the statistics of smallpox in this country more than two months ago, we said that there would probably be over 30,000 cases of the disease reported in the United States during the first six months of the present year. Our prophecy has been only too fully verified. At the beginning of June there were 27,200 cases on the list, more than two and one-half times as many as for the first five months of last year. This comparison is all the more startling since the number of cases of smallpox recorded last year was considered to justify the expression that the United States was suffering from a serious epidemic of the disease.

Although it is eminently a cold-weather disease, yet reports of boards of health in many parts of the country have brought the news of fresh invasion of smallpox. There is scarcely a State in the Union that has not suffered severely from the ravages of the disease during the winter just past, and there is practically not a single district that has succeeded in permanently banishing the contagion from its borders.

Fortunately the smallpox has assumed a very mild form during this outbreak, with an average mortality of less than 5 per cent. The disease has been so mild, in fact, that in some places there has been serious question whether the epidemic was genuine smallpox. On the other hand, there are localities in which the disease has raged with all its ancient severity. At the beginning of the year there were districts in Mississippi where the mortality was more than 20 per cent. There have always been, too, in the midst of the milder cases some severe ones that ran an almost typically malignant course and thoroughly justified the diagnosis of smallpox for the whole group of cases.

The discussion on smallpox at the recent meeting of the American Medical Association, an account of which will be found in the present issue of the MEDICAL NEWS, emphasized some interesting points. Not all doubt is at rest as regards the authenticity of certain groups of cases in the present epidemic. The possibility of the existence of a disease standing between variola vera and varicella will scarcely be denied. Medical men recently have come to acknowledge the independence of German measles as a type of disease intermediate to scarlet fever and measles. Even a fourth disease in this group has recently been claimed to exist by certain English observers. Careful clinical investigation of the nosological status of anomalous types of smallpox is eminently desirable. As is always true in medicine, the first observers in this line are more apt to meet with obloquy than encouragement. The original work must for a time be its own reward. Its prosecution is well worth while, however, for the question involved is one of the most important in medicine. Meantime indefinite conclusions and inadequately completed observations must not be allowed to hamper the work of sanitation and vaccination which can alone bring the present epidemic to a close.

The question of the protective power of vaccination is being thoroughly settled by the reports of smallpox received from all over the country. The unvaccinated are suffering almost exclusively. When vaccination does not prove protective there is always some question either of the genuineness of the smallpox that followed or of the authenticity of the vaccination. As the result of recent experience, there is no doubt, however, that the duration of protection after genuine vaccination is eminently individual. It may last for from seven to ten years, but it may run out in a much shorter period. The protection afforded by a previous attack of smallpox also becomes

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slight after the lapse of years, so that where an epidemic threatens it is well to attempt the vaccination of all who have not been vaccinated within a few years, even if they bear the marks of the genuine disease.

MAL D'ELEVATEUR.

ONE of the penalties of higher civilization is an increase in the number and variety of diseases to which human beings become susceptible. In the primitive state there is very little use for the physician or the surgeon, even the midwife is usually superfluous. Except in famine, pestilence, or war, those who survive the strain incident to infancy and early childhood have a good chance of weathering the ordinary storms of life and reaching old age.

In our new civilization there are many trades and occupations which give rise to distinctive forms of disease to which the name of the occupation readily attaches itself. Thus we have the caisson disease, the pulmonary disease of grinders, stone-cutters, and all who inhale quantities of dust, the anemia of miners and others who must labor away from the health-giving influences of sunlight. Those who are workers in phosphorus, arsenic, copper, lead, etc., frequently pay a heavy price for the privilege of earning their livelihood through such means, while the occupations in which electricity plays a prominent part have made large contributions to the list of diseases and injuries.

One of the most useful of modern inventions, the elevator, which has become indispensable wherever there are buildings of great height, is destined to play a rather important rôle in the history of disease. The actual results may be slight in some cases, but they are likely to be more severe in others. This is especially true when great speed is required, with sudden starts and stops. However well adjusted the machine or skilful the operator, there is a succession of shocks, and consequent disturbance of the equilibrium of the body. These shocks are much more apparent in downward motion, and the sensation is almost one of pain when there is a sudden drop of two or three stories. Of course, those who are constantly using this method of motion become inured to it in a measure, as the engineer becomes adjusted to the constant rattle and shock of his locomotive. The question is, Will not this repeated commotion of the body, and especially of the movable viscera of the abdomen, produce disease of the organs which are disturbed? We fear it will, and it will be interesting to study the phenomena attending their development.

The sensation or shock which is received in an elevator is not unlike seasickness, especially as it refers to the stomach and, as in seasickness, we may have nausea, vertigo, headache, vomiting, and sometimes heart failure. For those who have weak hearts or stomachs this form of locomotion is not to be recommended. It should enter into the category of forbidden things, so far as may be, for those who are thus affected. The careful and thorough investigation of this subject, both as regards those who ride occasionally, and those who ride constantly, and particularly those who are employed in night work, will prove a fruitful and useful study.

A PSYCHOPHYSICAL LABORATORY AT WASHINGTON.

IF there is ever to be sufficient definite knowledge of living modern civilized man to become of permanent value, it can be gained only by the careful study of large numbers of persons.

It has been proposed and a Senate amendment was introduced at the last session of Congress to establish a psychophysical laboratory at Washington. The purpose of such a laboratory is to collect sociological, pathological and abnormal data, as found especially in children and in the criminal pauper and defective classes, and to make special investigations with instruments of precision.

One of the difficulties of psychophysical work in our universities is that it is confined mainly to small numbers and to a special class of persons, so that it is doubtful whether the conclusions obtained can always be applied to people in general. Such work seems to be more for pedagogical purposes, being done by students desiring to prepare their theses for the doctorate. While many of these theses are very valuable, further investigation along the lines laid down rarely follow. A university could not extend such work to large numbers of individuals, for to compute many and varied data and to tabulate and publish them would involve too much work and expense.

A special and very practical feature would be the study of the criminal and defective classes. Here our Government is most directly concerned,

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for millions of dollars are expended in catching, trying and caring for criminals, but almost nothing is spent to study the causes that lead to crime. Thus, in 1890 the expenses of all our penal institutions were more than twelve million dollars; this does not include the cost of criminal and police courts nor of the property stolen nor of the untold injury to the community. A worthless criminal or crank kills a prominent citizen: the injury from such action is often beyond calculation.

We cannot expect to lessen crime or dangerous forms of abnormality unless we study the causes; this is the first requisite in all rational procedure, and these causes should be investigated in the beginning. Special emphasis, therefore, is laid on the investigation of criminal and abnormal *children*. If the world is ever to become better, we must begin with the children. This single phase of the work alone would justify a large appropriation. Our Government gives millions yearly for the study of rocks, plants and animals, but almost nothing for the study of children.

University laboratories have almost wholly ignored sociological conditions, leaving many practical questions untouched. It would be important to know what physical and mental characteristics are common to criminal children and whether such characteristics are due more to the child's nature or to its environment. Thorough and patient study only can determine such questions; theory and speculation cannot do it, although they may accomplish good by calling attention to the matter. It is generally believed, but not yet proved, that crime is mostly due to surroundings. If this can be determined, then there is much hope of lessening crime, for it is much easier to change the surroundings of a child than its nature.

Much study has of late been devoted to children in our public schools; mistakes have doubtless been made by those with more enthusiasm than training, but this is the case with all new lines of inquiry. There are very practical questions concerning our schools; to establish the measure of work according to the strength of the pupil is fundamental to health. This is especially true of children, for overtaxing their powers can leave its mark throughout life. What is the maximum work suitable to a child in the different periods of its growth? Can this maximum be injurious at times when all the vital force may be required for growth? To answer such questions we must know the physiology of normal growth, its rate of increase and decrease and what influences cause them.

It would be desirable to ascertain if there are physical or mental traits in common between unruly children and those in reformatory institutions, between those in feeble-minded institutions and dull children in the schools. Such inquiries, if made with care and discretion, might enable us to foresee the special dangers that this and that child will be subject to and thus make it possible to protect many children from temptations and conditions that might ruin them.

Such investigations should find their place under Government auspices.

ECHOES AND NEWS.

NEW YORK.

Rockefeller Institute Incorporated.—Articles incorporating the Rockefeller Institute for Medical Research, with its principal headquarters in New York, were filed last week with the Secretary of State. It is proposed to promote medical research, with special reference to the prevention and treatment of disease. The directors for the first year are: William H. Welch of Baltimore, T. Mitchell Prudden, C. A. Herter, L. Emmett Holt, and Hermann M. Biggs of New York; Simon Flexner of Philadelphia, and Theobald Smith of Boston.

Enlargement of St. Mary's Hospital.—Plans have been filed with the Building Department for the addition of a three-story and basement annex to the building of the Free Hospital for Children on West Thirty-fourth Street. The extension will be 34 by 50 feet and will be occupied by additional hospital wards and it will also have a handsome chapel. The improvement is to cost $45,000.

Punishments for Adulterating Milk.—Twenty-five milk-dealers, whose arrest was mentioned in a previous number of the MEDICAL NEWS, were arraigned in Special Sessions this week, charged with adulteration of milk. Five pleaded guilty, and were fined, one $50, and the others $25. They were warned that a repetition of the offence would bring them a penitentiary sentence. The other twenty cases were postponed.

Smallpox in the Adirondacks.—The Supervisor of the town of Moriah, Essex County, reported to Dr. Daniel Lewis, State Health Commissioner, that smallpox had broken out in a family in the town, which is situated in the wilds of the Adirondacks, and that it is impossible to get anybody in the town to take the stricken person and the other members of the family to the pesthouse, every one being afraid of contagion. He asked the State Health Com-

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missioner for aid. Dr. Lewis authorized him to call on the Sheriff of Essex County for whatever assistance was needed to carry out the law.

Laryngologist to St. Luke's Hospital.—Dr. D. Bryson Delavan has been appointed consulting surgeon, Department of Laryngology, St. Luke's Hospital, New York, in place of Dr. George M. Lefferts, resigned.

Proposed Jewish Hospital in Brooklyn.—A number of prominent Jews who are interested in the movement for the erection of a hospital in Brooklyn met recently and discussed the matter. The Secretary said that he was positive that there would soon be a much larger membership, and he felt sanguine that the new hospital would be erected within a year. At the present time the organization has a dispensary at 70 Johnson Avenue, which is of great benefit to the poor Jewish families of Williamsburg.

Responsibility of a Physician to His Patients.—So rarely is a physician held responsible in damages for either unskilful or unsuccessful treatment of a patient that a recent decision of the New York Appellate Division of the New York Supreme Court, awarding the patient damages against the physician, is in the nature of novel law. In this case a woman, having broken her left arm, was attended the following day by the physician, who put the arm in splints and instructed her to carry it in a sling. After attending her for about six weeks the physician found that the bones had not united. After further treatment he put a bandage on the arm, and then, as she testified, told her he was going away for ten days or two weeks on his vacation. He was away for five weeks, and when he then examined the arm he found that the bones had slipped from their positions, overlapped, and formed a union, and thereby caused a deformity, which would apparently be permanent unless the arm should be refractured and the bones allowed to unite in proper position. The physician's side of the story was that he told the woman he would be away for two or three weeks, and if she wanted him to call again she must send for him. The point at issue in fixing the liability of the physician was, which was the correct account of his going away. That issue was left to the jury, which brought in a verdict of $2,000 for the woman. This verdict was considered excessive by the trial judge, and the woman consented to have it reduced to $500. In affirming this judgment the Appellate Court said as to the liability of a physician: "A physician who undertakes the treatment of a patient is bound to exercise not only the skill required, but also care and attention in attending his patient until he notifies the patient that his professional relations are terminated. A physician and surgeon engages to bring to the treatment of his patient care, skill, and knowledge; and while, when exercising these, he is not responsible for mere errors in judgment, he is chargeable with knowledge of the probable consequences of an injury, or of neglect in its treatment, or unskilful treatment."

Seaside Hospital Open.—The Seaside Hospital of St. John's Guild at New Dorp, Staten Island, was opened June 15th. The "Lewis Memorial Cottage" erected last fall was also formally opened. This building is a cottage hospital designed for the treatment of very sick infants, and is a model structure for this purpose. It is 103 feet in length by 30 feet 10 inches in width, and contains two wards, each equipped for the care of eight patients. The wards are so arranged that there is an air space of 1,000 cubic feet for each patient, and the ventilating system is as nearly perfect as it can be made.

Proposal to Establish New Consumptive Hospital in New York.—An appeal was made last week by representatives of various taxpayers' organizations in Manhattan and The Bronx to have the city establish outside of the city limits a public hospital for the care of consumptive poor. The Henry law, passed by the last Legislature, gives authority to the city to establish such an institution, and Mayor Van Wyck and Comptroller Coler are now investigating the subject. The agitation was started by the Park District Protective League and the Kingsbridge Improvement Association. Complaints were made to the Health Department and to Mayor Van Wyck that the inmates of Seton Hospital at Spuyten Duyvil were wandering around Riverdale and Kingsbridge and were congregating at the railroad stations and acting in a manner calculated to endanger the health of the community. It was complained that there was lax supervision over the patients, and that they were allowed to wander abroad day and night. The complaints were referred to Comptroller Coler.

PHILADELPHIA.

University of Pennsylvania Commencement.—A new feature of commencement week was a series of clinics and demonstrations arranged to show the alumni the advanced methods of teaching and the complete equipment for purposes of instruction in practical medicine and surgery. Dr. James Tyson was elected President of the Alumni Society.

Dr. Barnes Exonerated.—Dr. C. A. Barnes has been exonerated by the Coroner of the charges preferred against him because of the death of a colored woman who died shortly after being given chloroform during labor. The charge was mainly due to a meddlesome nurse and midwife. The jury found that death was due to exhaustion.

Scarlet Fever at Darby.—An epidemic of scarlet fever is in progress at Darby. Forty cases have been reported, many of them being adults.

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State Homeopathic Insane Asylum.—The bill appropriating $250,000 for the construction of an institution to be managed exclusively by homeopaths has been reported favorably in the Legislature. Debate as to the method of control has delayed its passage, which now seems assured.

Milk Inspection by Pediatric Society.—In furtherance of their efforts to establish a pure milk supply for the city, the Pediatric Society has appointed a commission to inspect milk and dairy surroundings and issue guarantees as to the standard of the milk. The commission includes Drs. M. P. Ravenel, Bacteriologist; C. J. Marshall, Veterinary Inspector; and Henry Leffman, Chemist.

State Board Question Again Prominent.—Before the excitement regarding the fraud and investigation relative to the examination held by the State Medical Council in 1899 has fairly subsided, what is apparently a repetition of the fraud has come to light. What were claimed to be the questions for the midsummer examinations to be held this week have been on sale for some days and exorbitant prices have been paid therefor by some candidates for licenses. The day preceding the examinations a local paper published the questions on sale with the statement by Dr. Henry Beates, President of the Examining Board that they were fraudulent. Purchasers of the questions are correspondingly glum and expect a very searching examination as a result of the affair.

A New Suggestion for the Treatment of Focal and Jacksonian Epilepsy.—The article of Dr. J. William White in the *Philadelphia Medical Journal* and *University of Pennsylvania Medical Bulletin* of recent date is the subject of much discussion in local medical circles. Dr. White has not been able to prove a great deal by the two cases in which the method has been tried, but the possibilities are well worthy of study. The method is the result of an effort to combine the effect of operative procedure with sedation of the affected center. A small trephine opening is made over the affected area and 30 minims of a 2-per-cent. eucaine solution injected into the brain tissue. These injections are repeated at intervals. One case was benefited by this procedure, bromides being given after each injection. The other case was also benefited for a time, but the most severe seizure ever experienced followed the last injection before the patient was lost sight of. The method is offered conservatively for trial by the profession.

The Medical Class of 1876.—The 1876 Class of the Department of Medicine of the University of Pennsylvania held its first annual banquet at the University Club, Philadelphia, on Alumni Day, June 11th, and effected a permanent organization for the benefit of its Alma Mater. The following officers were elected: President, Charles A. Oliver, A.M., M.D., Vice-President, William H. Klapp, A.M., M.D., Secretary, Francis M. Perkins, A.M., M.D., Treasurer, Benjamin F. Baer, M.D., with an Executive Committee of twelve members who will meet at the call of the President.

CHICAGO.

New Code for County Hospital.—A new code of rules for the County Hospital is to be drawn up by a special committee of the County Board in conformity with the recommendations of the investigating committee. The line between the functions of the Warden and the medical executives will be sharply drawn.

Gift to Provident Hospital.—In the will of the late Dr. W. S. Caldwell it is arranged that Provident Hospital, of Chicago, shall receive $50,000. St. Francis' Hospital, and the Orphans' Home of this city receive $10,000 each, and the Public Library, $2,500.

Chicago Academy of Medicine.—The annual meeting of the Academy was held a few days ago. Drs. William L. Baum, James G. Kiernan, and Harold N. Moyer were chosen Directors for the coming year.

Annual Meeting of the Physicians' Club of Chicago.—At the annual meeting of this Club, held recently, Drs. W. S. Christopher, Joseph Zeisler and G. Frank Lydston were elected dirctors, and Dr. L. Harrison Mettler was re-elected secretary and treasurer.

Election of Dr. Stowell.—Dr. James H. Stowell was recently elected president of the American Association of Life Insurance Examining Surgeons.

Appointment of Dr. Baker.—Dr. Miles D. Baker has been appointed first assistant at the Illinois Southern Hospital for the Insane at Anna, and Dr. David R. Sanders, Jonesboro, superintendent of the Annex.

GENERAL.

Free Vaccination for Indianians.—Free vaccination, with pure virus, for the entire population of Indiana, is a proposition before the State Board of Health. It is said the Governor regards the suggestion with favor. Secretary Hurty of the State Board predicts that smallpox will spread to every corner of Indiana until it runs itself out, as has been the case in some foreign countries. The problem has become so large that the general free vaccination scheme is being considered to check the contagion. Indiana ranks with North Carolina ninth in point of order with reference to the prevalance of smallpox. From December 28, 1900, to June 7, 1901, 834 cases were reported with 5 deaths. For the corresponding period last year only 182 cases were recorded.

New Navy Medical Appointment.—Dr. Herbert M. Holfree of Buffalo, N. Y., has qualified for appointment to the medical corps of the navy and will be commissioned an assistant surgeon. Dr. Tolfree was a naval cadet, and

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like a number of others, who left the Academy before graduation, he took up the study of medicine to reënter the service as a surgeon.

Col. Forwood to Act as Surgeon-General.—Col. William H. Forwood of the Medical Department, who has been in charge of the important medical depot station at San Francisco for many months past, has been called to Washington to take charge of the Medical Department of the Army during the absence of Surgeon-General Sternberg in the Philippines.

Addition to Providence Hospital.—Coincident with the gratuating exercises of nurses of the class of 1901 at Providence Hospital, Washington, D. C., last week, ground was broken for the new addition to the institution and Nurses' Home, which are to cost $300,000. A distinguished gathering of Government and District officials and prelates of the Catholic Church witnessed the exercises. Addresses were made by Inspector-General Breckenridge of the Army, Surgeon-General Sternberg, and Commissioner Ross.

Another Victim of Appendicitis.—Dr. William Cooper Eidenmuller of San Francisco says he has discovered that dogs have appendicitis. He found it out while performing an autopsy on the remains of a favorite pet. The animal had been ill for a year, and in reviewing his symptoms it is plain that they were identical with those of human beings who suffer from recurrent attacks of this disease.

War on Mosquitoes in Baltimore.—Health Commissioner Bosley has issued an appeal to the people asking their cooperation in the extermination of the mosquito. He advises every householder to pour one gill of kerosene oil into all wells, and a proportionate quantity into all pools and drains where stagnant water may collect, at least once every two weeks.

Suicide Epidemic in Emporia, Kan.—During the past two years in this town of 9,000 inhabitants over thirty persons have committed suicide. To check the epidemic Mayor Morse has issued a second proclamation forbidding the local newspapers from publishing the details. Mayor Morse believes the suppression of this class of news will check the epidemic.

Plague in Bombay and Cape Town.—Plague continues in the city of Bombay, India. Over eleven thousand cases have been reported from December 28, 1900, to April 20, 1901, with 8,721 deaths. At Cape Town, South Africa, the disease is also still present. From February 16, 1900, to May 4, 1901, 572 cases of plague are recorded. Of these 250 died.

National Health League's Plan.—The National Health League, which is heterogeneous in composition, recently held a meeting in New York to further the "grand cause." This, in the language of the League's prospectus, is the promotion of the public health. The League has already announced how this is to be done. All surgery and medication, vaccination and vivisection are to be abolished and a return made to naturalism. Massage, Swedish movement and thought suggestion, diet, reform, grace culture and internal baths are to replace drugs. A stock company capitalized at one million dollars is proposed to promote the teaching of the League's methods and incidentally to manufacture hygienic appliances. Forty-per-cent. dividends are promised to purchasers of the stock.

Treatment of Lupus in London.—The large subscriptions flowing into the London Hospital to carry on the experiment in the use of electric light to cure lupus have caused a little controversy between the surgeons in charge of that work and those using the Roentgen-ray for the purpose at the London Skin Hospital. It seems that the latter experiments have been going on for some time and cost less, because the apparatus used to concentrate the Finsen rays of electric light in the other system is expensive and a long time is required at each exposure. But the use of the Roentgen-ray is always attended with some danger to the patient, and the results at the London Hospital, where experiments have been going on under the direct patronage of Queen Alexandra, are, on the whole, much more satisfactory.

Tuberculosis Congress in London.—Not only has medical science taken the ground that tuberculosis is the most dangerous of all pandemic diseases, but the laity as well have learned to recognize the need of concerted measures to make a determined fight against the ravages of the disease. This is shown very plainly in the list of contributors to the expenses of the Tuberculosis Congress which will be held in London from July 23 to 26. A fund of more than $15,000 has been subscribed to defray the cost of making the Congress a success. Among the leading contributors are found the corporations of the leading cities of the United Kingdom, Parke, Davis & Co., the Dukes of Bedford and Portland, the Marquis of Northampton, the Earls of Derby, Rosebery and Egerton of Tatton with many others of the nobility and gentry. In view of the fact that a large number of physicians from all parts of the United States have signified their intention of attending the Congress an excursion has been arranged by Henry Gaze & Son of 113 Broadway, New York.

Obituary.—Dr. R. J. Martin of Augusta, Me., one of the best-known among the younger medical men of the State, was drowned in Long Pond June 17th. Dr. Martin was graduated from the University of New York in 1887, had been six years a member of the State Medical Board, and was surgeon for the Maine Artillery during the Spanish War.

Dr. William J. Campbell, house physician at the City Hospital of Worcester, Mass., died of smallpox June 15th, after an illness of two

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weeks. He contracted the disease while attending a patient in the Hospital. Dr. Campbell was twenty-seven years old. He was a son of Dr. James Campbell, who was at one time city physician in Marlboro. He was a graduate of the Marlboro High School, Boston College, class of '96, and the Harvard Medical School, class of '99. He spent a year at the Cambridge Hospital.

Maurice B. Perkins, Professor of Chemistry of Union College and Albany Medical College, died suddenly June 18th. He had been a member of the Union College faculty since 1865. Professor Perkins was a well-known expert witness in poisoning cases. Maurice B. Perkins was born in New London in 1836, and studied chemistry at Göttengen, Heidelburg, and Tübingen. In 1862 he was appointed assistant professor of chemistry in the College of Physicians and Surgeons of New York City and was afterward assistant in the Lawrence Scientific School at Harvard. He received the degrees of A.M. from the last-named university, and of M.D. from the Albany Medical College. He was the author of a manual of quantitative analysis.

CORRESPONDENCE.

THE ARMY CANTEEN.

To the Editor of the MEDICAL NEWS:

DEAR SIR: I am no little astounded at the action of the American Medical Association in recommending the reinstatement of the army saloon, commonly called the *canteen*. Now, if there was a doubt that the canteen has not been an unmitigated curse to the army, there might have been some reason in the action of the Association. The facts, however, of its demoralizing influence have been so apparent that it is past comprehension why this action was taken.

I wonder if the promoters of reinstatement were conversant with the doings of the fifty canteens that flourished at Camp Thomas, Chickamauga? How about Manila? If this were not a medical journal facts could be piled up in regard to the demoralizing influence of the canteen that would bring the blush of shame to the cheeks of any one who had the good of the country at heart.

It is passing strange that this great Association should pit itself against the Christian sentiment of the country which compelled Congress at two different times to enact laws prohibiting the canteen. I but voice the sentiment of hundreds and perhaps thousands of physicians who feel profoundly hurt by this action of the Association, when we say to these gentlemen, "Beware."

Is not the field of medical science large enough to work in without doing that which would shock and alienate the Christian sentiment of the country?

D. I. MCMILLAN, M.D.

Sunbeam, Illinois, June 14, 1901.

CONGRESS ON TUBERCULOSIS.

To the Editor of the MEDICAL NEWS:

DEAR SIR: I should like, through your journal, to call the attention of members of the profession to the important Congress on Tuberculosis which will be held in London from July 23rd to 26th. It is much to be desired that a large contingent from the United States should participate in the work. Many prominent physicians have signified their intention of joining the Congress. Members of the profession wishing to do so should send their names, enclosing five dollars, to Dr. St. Clair Thomson, 20 Hanover Square, London, W., England.

W. OSLER.

Baltimore, June 18, 1901.

OUR LONDON LETTER.

[From Our Special Correspondent.]

LONDON, June 8, 1901.

A MEDICAL DEBATE IN THE HOUSE OF COMMONS—THE BIRMINGHAM CONSULTATIVE MEDICAL AND SURGICAL INSTITUTION—MR. CHAMBERLAIN AND THE TRADES-UNION RULES OF THE MEDICAL PROFESSION—AN ATTACK THAT FAILED—ANOTHER SLAP IN THE FACE FOR THE GENERAL MEDICAL COUNCIL—RETIREMENT OF THE DIRECTOR-GENERAL OF THE ARMY MEDICAL SERVICE—THE SECRETARY OF STATE FOR WAR AND THE MEDICAL DEPARTMENT.

THE echoes of a medical controversy made themselves heard last week in the House of Commons with a result that can hardly be considered satisfactory to the medical profession. Some time ago certain prominent citizens of Birmingham conceived the idea of founding what they called a "Consultative Medical and Surgical Institution" where persons unable to afford the ordinary consultant's fee should get expert advice at a reduction of fifty to seventy-five per cent. To enable them to carry out this scheme of cheap philanthropy they hired a young physician who in return for a fixed salary was to give the benefit of what Iago would have called his "gained knowledge" to such as might seek counsels of him. The physician in question, Dr. Ward Irvine, is a graduate both in Arts and Medicine of the University of Dublin, and a man of respectable attainments; his age, however, precludes the possibility of his having had much experience, and unless it be assumed that he is a heaven-born genius who has, like Gil Blas, mastered the whole art at once, he cannot yet have acquired the fulness and ripeness of knowledge that are looked for in a consultant. This is a simple matter of fact which cannot justly be imputed to him for unrighteousness. But he was unfortunate in his friends, or as they might more correctly be styled, his exploiters. These gentlemen, foremost among whom is Mr. Arthur Chamberlain, a brother of the Right Honorable Joseph, are not of the kind who do good by

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stealth and blush to find it fame—unless the text be interpreted in a sense not intended by the poet as meaning that they do good by stealing from the legitimate profits of the medical profession and blush when they are found out. They billed the city of Birmingham with advertisements of their institution in which the professional titles and attainments of Dr. Ward Irvine and the advantages of consulting him rather than the general practitioners were set forth with a crudity of style which would have been unseemly in the case of a hairdresser. These advertisements brought Dr. Ward Irvine last November under the ban of the General Medical Council which is the chief disciplinary authority in the medical profession of this country. He was adjudged guilty of "conduct infamous in a professional respect," and his name would have been struck off the *Medical Register,* a penalty which virtually means expulsion from the profession, had not the Council, in view of the offender's youth tempered justice with mercy. He was accordingly allowed six months to reconsider his position, and a few weeks ago as the time of grace was nearing its end, he severed his connection with the Consultative Institution. This was naturally hailed as a victory by the consultants of Birmingham whose zeal for a high standard of professional conduct had been perhaps too obviously stimulated by the fear of being undersold. On the other hand the promoters of the Consultative Institute are unwilling to accept defeat, and the Birmingham newspapers are full of the clamor of the contending parties. The quarrel, however, though amusing enough, was of merely local interest, till suddenly the matter came before the British world by being made the pretext for an attack on the Secretary of State for the Colonies in the House of Commons.

It happened in this wise. It was announced the other day that Dr. Ward Irvine, who be it remembered, is still under the censure of the General Medical Council, had been appointed one of His Majesty's Inspectors of Schools. This, it may be explained, is a position of some importance which has been held by not a few men of mark, among them being Matthew Arnold, the prophet of "culture." It was tolerably clear that a job had been perpetrated. Mr. Arthur Chamberlain had recently to admit in a court of law that the name of his big brother had been used, though without his knowledge, for the pushing of the wares of a commercial firm of which he is a member; and it seemed at least a probable conjecture that the same omnipotent influence had somehow been utilized for the purpose of administering a snub to the General Medical Council. For that is the key to the right understanding of the situation. The appointment of Dr. Ward Irvine was made by the Council of Education, a government department which, like the General Medical Council, is under the authority of the Privy Council. That the one Council should, by implication, bless a man whom the other had banned, and that it should do so in a high-handed fashion without any reference to the sister authority, can only be interrupted as a deliberate slight. The matter is all the more significant because this is the second time within two or three months that the General Medical Council has been ignored by the Government.

As was told in a previous letter, the clause of the Medical Act reserving to the Crown the right to accord recognition to foreign degrees under certain conditions was made applicable to Italy in direct opposition to the recommendation of the General Medical Council; and now we have its disciplinary authority, which is the chief purpose of its being, disregarded with even greater official insolence. A strong protest may be expected from the Council, which will hold one of its half-yearly sessions in this month of June.

As has already been hinted, the case was mismanaged in the House of Commons. One of the medical Members, Sir Walter Foster, of whom mention was made in a previous letter, is a bitter political enemy of Mr. Joseph Chamberlain, and he seems to have thought that he saw in the affair an opportunity of a flank attack. He put up another Member to open the attack, but that skirmisher was speedily driven back, and Foster had to come to the rescue. He is usually a pretty skilful tactician, but on this occasion he cut rather a sorry figure. Had he come forward frankly as the champion of the General Medical Council, he might have made a good fight; but he has a spite against the Council, in which he failed to secure a seat three or four years ago, and his advocacy was half-hearted and ineffective. He kept repeating that Dr. Ward Irvine had been adjudged guilty of "infamous" conduct, whereat the House howled, and that he had not cleared his "character," whereat it laughed. The attack on Mr. Chamberlain was a fiasco, and the net result of the debate was to place the medical profession in a somewhat odious light before the public. It was made to look as if it were bent on hounding to ruin a man guilty of nothing worse than placing a lower price on his labor than the standard fixed by what Mr. Chamberlain bluntly termed "the trades-union rule of the medical profession." The fact is that the words "infamous in a professional respect" which are used to designate unprofessional conduct, though found in the Statute, are in practice prejudicial to the profession, as they are liable to such misunderstanding as Mr. Chamberlain was guilty of.

A curious proof of the contemptuous indifference with which our statesmen regard medical matters was afforded by the statement of Sir John Gorst, Vice-President of the Privy Council, that neither he nor the President, the Duke of Devonshire, had time to read the minutes of the General Medical Council, and were therefore unaware of the charge against Dr. Ward Irvine. As these two members of the government are generally believed to enjoy a superabundance of leisure, this statement can only be taken to mean that they do not consider the proceedings of the

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General Medical Council worthy of their attention.

The Secretary of State for War has apparently succeeded in his object of driving the Director-General of the Medical Service of the Army out of his office. On May 31st, Surgeon-General Jameson retired two years before his time. It is said that Mr. Broderick made a mistake as to the Warrant (there have been some half dozen of them in the last twenty years) under which Jameson held his appointment, and the latter compromised the matter by consenting to retire immediately on the full pension he would have been entitled to had he served out his time. It is thought likely that he will receive a further solatium in the form of a K. C. B. which carries with it the title of "Sir" and makes the wife's plain "Mrs." into "My Lady."

Surgeon-General Jameson will probably be succeeded by Surgeon-General William Taylor, now principal medical officer of the forces in India and one of the ablest officers in the service. But such scant official courtesy does the Secretary of State for War think it necessary to extend to the medical service that the staff at the headquarters of the department are still in complete ignorance of the arrangements made by Mr. Broderick for carrying on the business of the office during the interregnum.

TRANSACTIONS OF FOREIGN SOCIETIES.

French.

RACHICOCAINIZATION—INTESTINAL OBSTRUCTION—SYPHILITIC PUPILS.

BAZY, at the Société de Chirurgie, May 15, 1901, reported an experience with special cocainization for the removal of a tumor from an irritable bladder. After the injection had been given the patient suffered from pallor, fear, severe vomiting and headache, and the bladder had lost not the slightest degree of its irritability. The lesson to be suggested appears that cocaine administered in this way is not applicable to operations of which lithotrity is an example. Dilatation of the anus is probably another procedure which would not be fully successful with cocaine in the spinal canal. In short, cocaine should not be administered until the reaction of the patient under it has been fully demonstrated by other means of administration. In general it is better to employ an anesthetic which is under the control of the administrator. Cocaine after its injection passes at once beyond the power of the administrator to cease its more active effects.

GÉRARD-MARCHANT said that he had himself had only one experience with spinal anesthesia, but felt that it was worthy of note. The woman had a large uterine myoma and a mitral regurgitant murmur. The injection was made by Tuffier of three centigrams of the drug. In twenty-five minutes after the method of Doyen, he removed the uterus. The anesthesia was entirely complete and there were no unfavorable circumstances or sequelæ attendant upon the operation.

ROUTIER said he had tried spinal cocanization five times with satisfactory anesthetization except once when a colpoperineorrhaphy was painful to a slight degree while the sutures were being inserted. He has abandoned the method chiefly because of the inherent in the consciousness of the patient. He does not care to operate with the patient one of the spectators.

GUINARD said that a woman under his care had a spinal meningitis secondary to a large abscess in the neck. Owing to the persistence and degree of the symptoms he determined under cocaine to explore the spinal canal. He injected the drug into the subarachnoid space, but found not the slightest possible decrease in the pain.

BROCA, in behalf of Froelich (Nancy), reported a case of intestinal occlusion due to the torsion of the small intestine about its own mesentery. He contented himself with performing a simple artificial anus. At the autopsy, not only was the complete twist in the mesentery found, but also a tight stricture in the colon due to the band formed by the twisted mesentery. It is evident that had the abdomen been widely opened and an evisceration done, the outcome might have been different.

QUÉNU stated that he had operated on a woman for an extensive pelvic peritonitis due to an old appendicitis. The patient did well for the first week and then developed signs of intestinal occlusion. An artificial anus was made which, however, gave only temporary relief. A laparotomy on the eighteenth day showed a mesenteric torsion. The patient died two days later.

SCHWARZ said he had seen one woman who for forty-eight hours had given signs of intestinal obstruction of a severe grade. The depression of the patient was so extreme that he tried electricity. At the autopsy an extensive torsion of the mesentery was found.

BABINSKI, at the Société Médicale des Hôpitaux, May 17, 1901, stated that in collaboration with Charpentier he has shown that the abolition of the reflexes of the pupils, especially that for light when permanent and independent of any globular disease and paralysis of the third pair of nerves is an almost infallible sign of syphilis, both hereditary and acquired. He exhibited four patients in whom the condition was very well developed. Three had confessed to acquired syphilis and the fourth in every probability was the victim of it by heredity. In all four there was a lymphocytosis of the cerebrospinal fluid. He concluded that abolition of the pupillary reflexes without other manifestations of disease of the nervous system is a sign that syphilis exists in that system and makes the patient a candidate for tabes dorsalis, diffuse cerebrospinal meningitis or cerebrospinal syphilis.

Appointment of Dr. Coughlin.—Gouvenier Hospital has added the name of Dr. John H. Coughlin of East Broadway, New York, to its staff of visiting physicians.

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SOCIETY PROCEEDINGS.

AMERICAN GYNECOLOGICAL SOCIETY.

The Twenty-Sixth Annual Meeting, Held in Chicago, May 30, 31, and June 1, 1901.

An Address of Welcome was delivered by Dr. Fernand Henrotin of Chicago which was responded to by the President.

Intraligamentous Cysts; Their Diagnosis and Treatment.—This paper by Dr. Chauncey D. Palmer of Cincinnati had special reference to the diagnosis and treatment of these tumors. What is needed is a classification that is helpful in the way of diagnosis and treatment. He spoke of oophoritic, paroophoritic and parovarian cysts. The oophoritic cysts are the hydrops folliculorum, and the unilocular and multilocular cysts. The oophoritic have a Graafian follicular origin and are rarely papillomatous. The paroophoritic cysts start from the hilum of the ovary and are papillomatous. All kinds of cysts, whether oophoritic, paroophoritic or parovarian, may grow into the folds of the broad ligament and become intraligamentous. The paroophoritic cyst is most apt to take on this special course of movement in its progressive development. All ovarian cysts of whatever kind should be removed by surgical procedures, and the sooner the better. But the removal of intraligamentous cysts demands the most correct knowledge of the parts and surroundings and superior skill. The essayist then dwelt upon the advisability, if not necessity, of operators availing themselves of the extraordinary opportunities, when the abdomen is opened, to see and to feel and to map out the morbid conditions, and determine what methods are best to adopt in the removal of pelvic growths. Intraligamentous cysts are, as a rule, easily peeled out of the broad ligaments. Enucleation, first suggested by Dr. Mynter of Buffalo can be done, but it ought only to be attempted when the attachments are superficial. An attempt begun in the old way on some intraligamentous cysts may have to be abandoned as an incomplete operation, or as inoperable. Many such patients have died on the table. He referred to the danger of wounding the ureters, or uterine arteries, and then he earnestly advocated the advisability of completely exsecting the uterus as well as the appendages thereof, when the cysts are bilateral, and where they are deeply embedded within the surrounding tissues. This new method of procedure, while seemingly the more radical way, is the only rational method of a skilful surgical extirpation of the diseased structures. He lauded highly irrigation of the peritoneal cavity with gallons of hot salt water after section, and the measures he had utilized of a continuous peritoneal irrigation of hot sterilized water, used for hours or days, in many cases of post-operative septic peritonitis.

Improved Technic in the Surgical Treatment of Uterine Myomata.—Dr. Wm. H. Wathen of Louisville, Ky., contended in this paper that the perfection of technic in operations for the removal of uterine or pelvic myomata is the result of the application of the variety of details suggested and practised by different surgeons. Operators no longer speak of hysterectomy as an operation peculiar to anyone, nor can they in many instances outline in advance the complete technic to be observed or carried out in an operation. The dangers during the operation are hemorrhage or injury to the bladder, ureters or intestines, and if the surgeon is prepared to avoid these, and operate speedily, there is hardly a condition that may not be successfully treated. Unless there is some contra-indication, myomata not larger than a fetal head may be easily removed *per vaginam.* If the operator uses well-constructed forceps, he will not wound the bladder, the intestines or the ureter, the last-named of which, if necessary, may be protected by ureteral catheterization, also to be used as a means of protecting the ureters in the suprapubic method. Experience will aid in the selection of cases suitable for the vaginal method. While the author has removed with ease uterine myomata twice the size of a fetal head, he has had great difficulty in removing one much smaller. The conditions most favorable for the vaginal method are a large pelvis, a large and easily dilated vagina, and a soft variety of tumor that can be easily morcellated. The operation is best performed by the almost total exclusion of retractors other than the fingers; well-constructed forceps are important, and, with few exceptions, no ligatures should be applied until the tumors are removed. There are many cases of uterine myomata where an operation is indicated, in which the tumor or tumors may be enucleated, leaving the uterus capable of performing its normal functions; where this can be acccomplished myomectomy should be the method of election.

Painful Menstruation as a Factor in Determining Character of Operations on the Uterine Appendages.—A paper on this subject was read by Dr. Philander A. Harris of Paterson, N. J. The author divided dysmenorrhea into primitive and acquired or secondary. The primitive form included all cases in which dysmenorrhea dated from the commencement of the menstrual function. Acquired or secondary dysmenorrhea is that form not present at the onset of menstruation, but arises during menstrual life, menstruation having been previously painless. Extra-uterine suppurations so commonly resulting from gonorrheal infection of the uterus, and from the ordinary infections of childbirth and abortion, are of such frequent occurrence as to quite over-

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shadow in importance all other causes of acquired dysmenorrhea. Not all cases of suppuration in the uterus or tubes cause painful menstruation. A small percentage of such cases, even in the presence of extensive and long-continued suppuration, menstruate painlessly. Tubal suppurations may, and usually do, cause painful menstruation before the development of ovarian abscess. This is proven by the fact that surgeons so often have exsected both suppurated tubes, at the same time leaving both ovaries which appeared healthy, with the arrest of all pelvic pains and restoration to health, including a cure of the dysmenorrhea. Ovarian abscess frequently develops from tubal suppuration, with the effect of increasing, modifying or localizing not only intermenstrual pains, but also the pains of menstruation. Pronounced and persistent primary dysmenorrhea, or the dysmenorrhea which existed from puberty, will probably not be obliterated by the simple excision of diseased tubes. By excision of a tube is meant its removal to the uterine mucosa by making an elliptical incision in the uterus about the tube and closing the chasm with sutures. The author's partially conservative surgical work in this connection has shown him that, while he has maintained for about ninety-five per cent. of all women thus operated on the item of menstruation, he has had a higher percentage of relief and symptomatic cures and far greater satisfaction with the results obtained than accrued from his former and more extensively mutilating and exsective operations.

Status of Menstruation.—Dr. E. C. Gehrung of St. Louis, Mo., read a paper with this title. Menstruation is not, as has been supposed, a special function of the generative organs of woman, but only the perverted counterpart of the estuation of the lower animals. This transformation into a monthly "hemorrhage" (menorrhagia) has generally been brought about by the necessities and results of the social, moral and connubial life of mankind, as well as through the transmission by inheritance of certain debilities of the generative apparatus, and more especially by the erect position and its natural consequences, assumed by the human species. This fact being admitted, the profuseness and prolongation of the sanguineous loss are proof that it is now a physiologico-pathologic condition, predisposing to anemia and all its direful consequences, preëminently to the nervous system. In the great majority of cases the quantity of blood lost during so-called normal menstruation is an unnecessary and therefore pathologic waste of the very essence of life. It stands to reason that in all cases of depressed vitality this loss should be reduced as much as possible and by all means of disposition. The best means for controlling the waste is the vaginal (not uterine) tampon, applied secundum artem. Whenever curettage is not indicated or applicable, and where it has failed in gaining the desired result, the tampon is the means indicated. Chronic and acute inflammation of the pelvic organs are contra-indications.

The Age of First Menstruation in the United States.—Dr. G. J. Engelmann of Boston, Mass., read a paper on this subject. Over 10,000 observations as to the time of first menstruation of American-born women, many with reference to points never before investigated, here or elsewhere, gives him ample material for an authoritative solution of the questions involved. These observations, from his own practice and that of helpful friends, are many, and the identity of results obtained in far distant points, Montreal and New Orleans, St. Louis, Cincinnati, and Boston, vouches for their correctness. Furthermore, they are corroborated by all previous records, a total of 6,000, in such points as these may cover. The mean age of first menstruation in this country is 13.9 or 14 years, the same in the United States and Canada. Climatic differences in no wise influence pubertal development within the bounds of the North American continent; the American-born, be they of American (14.1), German (14.3), Irish (14.3), or French (13.6) parentage of the same class, attain puberty at the same age in Montreal, St. Louis or Boston; the negro does not vary (14.05), whether in New Orleans or St. Louis. The greatest variation caused by the extremes of all influences is one year, from 13.5 in the girl of highest refinement and education to 14.5, which is the period for the American-born of the laboring classes of German and Irish parentage; in other countries the difference between the extremes of social classes is from two to three years. The native American is more precocious than the American-born of foreign parents, but the latter closely approximate the American of American parentage, even in the first generation.

Cancer of the Uterine Fundus.—A paper with this title was read by Dr. J. M. Baldy of Philadelphia. Carcinoma in any part of the body is so well known for its virulence that there can be no surprise at the results of this disease recently reported from so many sources, where the uterus has been the organ attacked. It must be admitted that carcinomata of the same variety are intrinsically much the same as far as the disease itself is concerned, but the location of the disease renders the practical aspect of the case widely different; and of all portions of the body in which it is safest for cancer to occur, if the word safe can be used in this connection at all, the fundus uteri is that portion. It is with the object of calling the attention of the profession to, and emphasizing as strongly as possible, the wide practical difference between cancer of the cervix and cancer of the fundus, that this paper is presented. It has been said that practically all patients with cancer of the

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cervix eventually die of the disease; while practically all those with cancer of the fundus remain well if operated upon. This statement is more generally true than one would suppose at first glance. It has been my own, and the experience of other surgeons. Less than five per cent. of cases of cancer of the cervix are cured, no matter what line of treatment is followed. Twenty-four cases of cancer of the fundus have passed through my hands, a fairly large experience for one man. Of these, three were either too far advanced for operation, or refused operative treatment. On the remaining twenty-one cases hysterectomy was performed by the vaginal method, the abdominal method or the combined vagino-abdominal method. Two of the twenty-one cases died as a result of the operation. Of the nineteen remaining cases, all are alive and well to-day, with two exceptions. One of these died of pneumonia seven years after operation. It is strongly suspected from the reports that the other one has a recurrence. Making all allowances for mistakes and the general unreliability of statistics, the fact stands out strongly that about seventy-five per cent. of these cases are well and free from signs of cancer, as against five per cent. or less of cancer of the cervix.

The Status of Hysterectomy for Uterine Cancer.—Dr. Cyrus A. Kirkley of Toledo, Ohio, presented a plea for conservatism in the surgical treatment of uterine cancer, and contrasted its pathology and treatment of half a century ago with that of the present. While we have a revised nomenclature as to the varieties of uterine cancer, actual knowledge of the disease has not materially advanced. Due credit was given the advocates of vaginal hysterectomy for their skill, and for whatever pathological fascination made it too general, and proper indications for it were too often disregarded, and as often misunderstood. Instances were given pointing out this truth. With these discordant views as to the propriety of so serious an operation, the primary mortality of which is at least ten per cent., one might well hesitate in its adoption. The operation should be done at the early stage, when microscopic examination is necessary for a correct diagnosis. Most cases have passed the limits of radical operation when they apply to the surgeon.

Prolapse and Procidentia of the Uterus.—In this paper Dr. Henry T. Byford of Chicago holds that the essential feature of prolapse is the want of supporting power of the pelvic connective tissue. To suture the uterus to the abdominal walls is to support the pelvic connective tissue by means of the uterus and is wrong and inefficient. The best and most rational method is to draw up and attach the peri-uterine tissue and thus keep the uterus up by means of its natural supports. In addition to the ordinary operations for lacerations and relaxation at the vaginal outlet, the following method is proposed: (1) Shorten the round ligaments intraperitoneally, making one large loop of each ligament, and then stitch the loop to the parietal peritoneum a little above, and internal to, the internal inguinal ring. (2) Suture the infundibulo-pelvic edges of the broad ligaments forward to the parietal peritoneum, external to the internal inguinal rings, as high as they can be drawn without much resistance. Then suture any available relaxed part of the broad ligament forward over or beside the round ligament loops. (3) Put a suture through the base of each round ligament at its junction with the uterus, and suture it to the peritoneum over and beside the bladder. (4) Examine the sacro-uterine ligaments. If the peritoneum corresponding to their location is not drawn up and made somewhat taut by the new position of the uterus, or if the cervix sags far forward toward the vaginal entrance, take a short fold or tuck in it and suture it to the broad ligament beside the cervix, and perhaps slightly to the edge of the cervix, getting as broad a peritoneal apposition as possible. (5) Search for the remains of the urachus at the lower end of the abdominal incision. Start a slit in the peritoneum an inch above the lower angle, and half an inch on either side, and extend them downward and outward to the bladder wall. Make a transverse incision on either side, uniting the upper end of the slits to the abdominal incision. Separate the peritoneum between these slits, including as much connective tissue as possible, from the underlying fascia, and there will be formed a partly divided flap of connective tissue and peritoneum with the urachus near its center. Fold or twist this loosely into a sort of cord and attach it to the rectus fascia at the edge of the incision, and high enough up to draw the bladder and anterior peritoneal wall well up. This suspends the bladder somewhat after the manner described by Dawson.

Panhysterokolpectomy, a New Prolapsus Operation.—This was the title of a paper read by Dr. George M. Edebohls of New York. This operation consists in complete removal of the uterus and vagina, followed by operative obliteration or columnization of the bed of the genital tract. The tubes and ovaries are not disturbed, if healthy; if diseased, they are removed with the uterus and vagina. Obliteration and columnization of the bed of the removed uterus and vagina is effected by means of from seven to nine buried pursing sutures of chromicized catgut placed about two to two and a half centimeters apart, and running parallel to each other. Each suture gathers the raw surfaces from the periphery in circular fashion, and draws or purses them together in the median line. It is buried by being pushed upward toward the abdomen, while the next suture is being tied beneath it.

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Pus in Abdominal Operations.—As a result of his observations during the past seven years, Dr. Hunter Robb of Cleveland has become convinced that operators not infrequently err in carrying out radical abdominal procedures when the patient's resistance is in such a lowered condition that she is very apt to succumb to the shock of the operation *per se*. Such a condition must always be given careful consideration when deciding for or against operative interference during an acute attack of a localized or more or less generalized pelvic peritonitis. Believing that this factor has a very important significance in influencing results, the speaker has made it a rule during the acute stage of a pelvic abscess to defer an operation so long as it seems safe to do so. In the meanwhile, the patient is kept perfectly quiet on her back in bed, and heat in the form of flaxseed poultices or turpentine stupes is applied to the abdomen. In addition, a vaginal douche of a gallon of a warm one-per-cent. solution of carbolic acid, or a saturated boracic-acid solution, is given twice daily. For nourishing the patient he depends upon nutritive injections entirely. Anodynes and heart stimulants are given, if necessary.

Removal of the Female Urinary Bladder for Malignant Disease.—A paper with this title was read by Dr. Matthew D. Mann of Buffalo, N. Y., who said that the operation for removal of the bladder has not received enough attention in this country, there being very few cases on record. Cancer of the bladder is rare, but is the commonest form of growth found in this viscus. The diagnosis can be made by the symptoms, the use of the cystoscope, palpation and the examination of the urine. Treatment may be removal through the urethra, the vaginal septum, or by suprapubic cystotomy. The operations are the removal of the growth and its base, resection of part of the bladder or cystectomy. Indications for total removal are multiple growths, return after removal, extensive involvement of the base, and extension of cancer of the cervix uteri into the bladder. The ureters need no attention at the time of the operation, as by the removal of a portion of the anterior vaginal wall they will discharge into the vagina. If possible, the ureteric openings into the bladder should be left intact. This will rarely be impossible. He does not believe in uretero-intestinal anastomosis. The vagina can be used as a receptacle for the urine, as was done by Pawlik. If this be done, there will be little danger of infection traveling to the kidneys, as the newly-made bladder can be kept clean. Mann reports two cases, both of which recovered from the operation, and has collected from the literature fourteen cases more. He concludes that in certain malignant disease of the bladder, total extirpation is a justifiable operation, offering no serious difficulties to an experienced abdominal surgeon, and giving the patient a chance for a comfortable continued existence.

Total Extirpation of the Urinary Bladder.—This paper was read by Dr. J. Wesley Bovée of Washington, D. C. The following conclusions were based upon a study of ninety-six cases collected from literature: (1) Until a more satisfactory plan of disposal of the ureters is found, cystectomy should never be undertaken for conditions other than exstrophy, when partial extirpation of the organ is possible. Even a very small portion of the bladder into which the ureters may be debouched is practically free from danger of infection incident to bowel grafts, and further such disposition of the ureters is more easily executed. (2) For exstrophy of the bladder the Maydl and the Pozzi operations are quite satisfactory, though the danger of infection seems ever present. (3) Rectal graft of the ureter in its continuity and skin-grafting of this duct are highly dangerous. (4) Uretero-vaginostomy is practically free from ascending infection, though it gives far from perfect results. (5) Urethral graft of the ureter seems free from infection, but the constant dribbling of urine is but slightly ameliorated by the use of the urinal. (6) The Mauclaire-Gersung operation is worthy of further application, inasmuch as it provides for both sphinctered bladder and bowel.

Shock, from a Clinical Standpoint.—Dr. Eugene Boise of Grand Rapids, Mich., read a paper on this subject. The basis of the theory of paresis is the thought that the extremely low arterial tension of shock is inconsistent with vasomotor stimulation, which, by causing arterial contraction, should give high tension. On the contrary, the symptoms of shock can, in reality, only be explained by the theory of extreme *stimulation of the entire sympathetic system.* Laboratory experiments have demonstrated that extreme stimulation of the cervical sympathetic will cause cardiac and arterial *spasm* with consequent *low* arterial tension by reason of incomplete diastolic relaxation of the heart. Postmortem records show that in fatal cases of shock the heart is found contracted and empty, even ruptured, showing a condition of extreme *stimulation* of the vasomotor system, rather than paresis. Nitrite of amyl and nitroglycerin are noted arterial relaxants, and yet they are very beneficial in shock. So, also, with strychnine. The opinion of operators of large experience is that to be of benefit it must be given in large doses. And yet all therapeutists agree that in such doses strychnine paralyzes the vasomotor center and the intracardiac ganglia, and therefore is absolutely contra-indicated if the vasomotor nerves are already paretic. So also with normal saline infusion. To derive the greatest benefit it should be used intravenously and at a temperature of 118° or 120° F.

Resections and Exsections.—In this paper Dr. Fernand Henrotin of Chicago presented

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the salient points concerning the questions involved in resection of the ovaries and tubes, as there is still much doubt regarding the results obtained, and as to the proper methods to pursue. He considered the subject of resection and exsection under three heads. (1) Diseases involving the tubes. Salpingotomy and tubal resection is a most undesirable operation, and only the most formally expressed desire for offspring on the part of the patient, after explanation of the uncertainty of results, will warrant their performance. Pyosalpinx always demands exsection, and any tube materially damaged by any disease should be removed in its entirety. (2) Ovarian disease. All diseases of the ovaries, adjudged to be non-malignant, can be cured, and should be treated by resection of the diseased portions only. Recent ovarian abscess can be cured more quickly, more certainly, and with less danger by vaginal incision when this is practicable. When the abscess is of long standing, the sac should be removed, but even then some healthy ovarian tissue can almost invariably be preserved. (3) Chronic composite diseases. In most diseases of a composite nature in young women, when the tubes and ovaries are materially and equally involved, salpingectomy with ovarian resection is the most satisfactory operation, the uterus being retained.

These three topics were taken up *seriatim* and discussed at great length. The author has performed at least two hundred and fifty operations which might be classified as salpingotomies, salpingectomies, and ovarian resections. He could safely state that 40 per cent. may be termed delayed and partial cures, or failures. Of this, 40 per cent., the heaviest proportion by far comes from such as have had salpingotomy or tubal resection performed. The next most complaining class are those in which the ovaries alone were resected and the least suffering and the best health are found among those in whom the tubes when affected were entirely exsected and the whole or portion of the ovaries was removed. He has not had to reoperate more than five or six times. By salpingotomy the author means opening into the lumen of the tube, and by tubal resection is meant the removal of a portion of a tube including the mucosa, and his statement presumes a material pathological alteration in the portion removed or incised. Under such conditions, he had no hesitation in stating that for every baby born there would be forty uncured or partially cured patients.

The President's Address.—The subject chosen was the future of gynecology as a surgical specialty. The general scope of Dr. Van de Warker's address was given in an anecdote of a noted ovariotomist who was invited by the President to contribute a paper to the Section on Obstetrics and Gynecology of the American Medical Association at the session at which he presided as Chairman. The ovariotomist declined on the ground that he was not a gynecologist; that ovariotomy and hysterectomy and other abdominal operations were general surgical procedures, and were more in the line of the general surgeon than the gynecologist, and wound up his letter of refusal by predicting that the time was not far distant when these operations would be by general consent of the public in the hands of the all-round surgeon. The speaker asks the question if that time has not arrived? The influence of the gynecological surgeon will always be felt. To him as a man of last resort will always be left the question of methods and expediency. Total hysterectomy for cancer is yet on trial. It is already abandoned by able men, while others are hopeful of good results. Will the final verdict upon this question be given by the general or special surgeon? The latter is trained in dialectics, he will bring to bear on the ultimate solution of such a problem qualities which the former cannot possess, because he cannot have universal knowledge and be the possessor of unlimited technic. All the great abdominal operations which are so eagerly exploited by the surgeon at large passed through this ordeal at the hand of the gynecologist, and were turned out finished procedures both in expediency and method into other hands. The day is nearly passed when great gynecological reputations can be made by the exploitation of a few operations. That belonged to the formative period of the art. But there is enough yet left for gynecology to explore and add to the sum of its literature. The subject of pelvic dynamics is still left in research. We know little of the subject of genital ptosis in women; our treatment of uterine displacements is rank empiricism. The physiology of the pelvic organs must at last be given its true value by the gynecologist rather than by the physiologist in his laboratory, as it must be studied functionally rather than structurally. Gynecology will always have its future, possibly brighter, more generally fraught with usefulness from the fact that its best minds are no longer concentrated upon matters purely mechanical, and which appeal to a comparatively few unfortunates, but because it will embrace in a broader scope all humanity. These are a few of the problems which the gynecology of the future must meet and in which men trained as we are, ought to feel a profound interest. We not only study the diseases peculiar to women, but we must also study social conditions that may tend to disease. There is no other department making such imperious demands upon its advocates as the gynecology of the present, and we may be sure that it will not diminish in the future. There is nothing that contributes to the mental equipment of a man that the gynecologist can do without. The ascendancy of gynecology as a surgical department will in no manner diminish, be-

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cause it shares its surgical triumphs with all who have the skill and knowledge to follow its lead; on the contrary, it will have a greater moral power when its advocates can find a field, broad and in close touch with humanity all about, beyond the limits of the operating-room. Would not the gynecologists of France be doing a better service to their country and to science if they were to find the cause and conceive the remedy for the decadence of the birth-rate, rather than bend their energies in finding a new way to perform an operation? If surgery has its limits, there are no limits to higher gynecology. Either the word is badly constructed, or its meaning only half understood among those who attempt to limit it to surgical lines.

Indications for Cæsarian Section as Furnished by Pelvic Contractions.—Dr. J. W. Williams of Baltimore, Md., read a paper with this title. In 2,123 cases in the Obstetrical Department of the Johns Hopkins Hospital, 278 (13.1 per cent.), had contracted pelves. The pelves were measured both externally and internally, and designated as contracted when the conjugata vera was 10 cm. or less in generally contracted, and 9.5 cm. or less in flat pelves. Nine hundred and forty-one of the patients were white and 1,182 black. Contracted pelves occurred in 6.91 per cent. of the former, and 18.1 per cent. of the latter. That is, in every fourteenth white and every sixth black woman. One hundred and ninety-nine of the 278 cases ended spontaneously (71.58 per cent.) The number of spontaneous labors decreased with the increase in the pelvic contraction. In view of the markedly-improved results following Cæsarian section, the indications for its performance should be widened. Thus we find that Zweifel, Olshausen, Reynolds, Bar, Charles and Cragin have performed 162 operations with 5 deaths, a mortality of 3 per cent. He therefore believes that in uninfected cases the upper limit for the absolute indication for Cæsarian section should be advanced from 5.5 to 7 cm., and the relative indication from 7 or 7.5 to 8.5 for flat, and 9 cm. for generally contracted pelves. With the absolute indication the operation should be done either at the end of pregnancy or the onset of labor; but when the relative indication is present the woman should be allowed to go into the second stage of labor, and have bearing-down pains for one hour, when, if the head does not show signs of molding or descending, Cæsarian section should be performed, instead of forceps upon the movable head or version. So that at present Cæsarian section for the relative indication should compete with high forceps or version, instead of with craniotomy upon the living child, as in the past. On the other hand, if the patient be infected, or her surroundings such that an aseptic operation cannot be performed, high forceps or version should be attempted, followed by craniotomy in case one fails to deliver the child by their means, and Cæsarian section reserved for those cases in which an absolute indication is present on the part of the pelvis.

Circumstances Which Render the Elective Section Justifiable in the Interests of the Child Alone.—This paper was read by Dr. Edward Reynolds of Boston in which form his experience and study of the subject he concludes that no man is justified in performing Cæsarian section as a last resource late in labor, or upon infected or otherwise constitutionally ill women, for the sake of the child alone; but that he who attains to the fullest possible knowledge of his cases beforehand may do the section at the beginning of labor on healthy women, with even less risk to both mother and child than is involved in the performance of unusually difficult high-forceps operations through contracted pelves.

The Technic of Cæsarian Section.—Dr. Matthew D. Mann of Buffalo, N. Y., first discussed the relative merits of the Sänger and Porro operations. He concludes that there is no rivalry, but that each has its proper place. The classical operation should be done in all elective cases, when the woman is in good health, the operation done in time, and all the conditions favorable. The Porro operation should be done when the uterus is septic; when gonorrheal infection is known to exist; when the uterus refuses to contract; when there are large fibroids or ovarian tumors, which cannot be removed without injuring the uterus. Small fibroids usually disappear after pregnancy. Other indications for the Porro operation are disease of both ovaries, when the uterus is torn or ruptured in labor, in cancer of the cervix, when the patient is greatly reduced and bearing the operation badly, in osteomalacia and bad atresia of the vagina. Six operations have been done in Buffalo by four operators, with the loss of one child. One mother died six weeks later of carbolic acid poisoning.

Place of Symphyseotomy as Contrasted with Section.—Dr. Charles Jewett of New York presented the following conclusions upon this subject: (1) Symphyseotomy is still a useful operation within a very limited range of pelvic contraction. (2) It is suited to conditions in which only very little additional pelvic space is required for delivery. (3) It is a valuable recourse, therefore, in cases in which forceps unexpectedly proves inadequate. (4) Axis-traction forceps, with the aid of posture, should always be tried before resort to symphyseotomy. (5) Its results would be much improved by restricting it to pelves with a conjugate of not less than 7.5 cm., three inches. (6) Under equally favorable conditions its total mortality should be no greater than that of Cæsarian section. (7) When the pelvic space permits, it should replace Cæsarian section in the presence of exhaustion. (8) It may be elected primarily as an alternative of Cæsar-

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ian section, when the operator can be assured that the degree of obstruction is well within its safe limit. Here the choice of operation is largely a matter of individual preference. (9) Within its proper field symphyseotomy is better than Cæsarian section for an operator of little experience in abdominal surgery.

Relative Merits of Bipolar Version with Slow Extraction and Accouchement Forcé in the Treatment of Placenta Previa.—A paper with this title was read by Dr. Henry D. Fry of Washington, D. C. He said that if we compared theoretically the bipolar method with accouchement forcé we would see that there exists reasons why the former may be considered safer in the hands of the inexperienced operator. In placenta previa a fatal result is usually due to hemorrhage or sepsis. The hemorrhage is unavoidable and incident to dilatation of the os. Consequently the method requiring the least degree of dilatation necessary to perform version will naturally be expected to give the least hemorrhage. After dilatation be obtained in sufficient degree to insert several fingers, further continuance of the process by manual means is likely to endanger the integrity of the soft parts. In other words, the artificial dilatation sufficient to perform bipolar version is comparatively safe, while that necessary for the insertion of the hand and internal version is dangerous. The rapid delivery of the infant in accounchement forcé adds additional risk of rupture. There is one serious objection to bipolar version and slow extraction. The infantile mortality is greater. When interference is necessary before viability or when the fetus is dead, slow delivery is certainly indicated. If the life of the child is endangered during slow extraction, the obstetrician must decide between it and mere rapid delivery with its increased maternal risks.

Scratch-Marks on the Wax-Tipped Bougies in Diagnosis of Ureteral and Renal Calculi.—Dr. Howard A. Kelly of Baltimore exhibited nine drawings made by Dr. Becker, showing scratch-markings made on wax-tipped bougies by calculi in the kidney and ureter; pictures of the calculi and the bougies used were also shown. A mixture of melted dental wax and olive oil, equal parts, was used to tip the renal catheters. This substance produces a smooth and highly polished surface, which on coming in contact with a stone is scratched or gouged in longitudinal striæ. The mucous membrane of the urinary tract cannot possibly affect the waxed surface.

Injuries to the Head of the Newborn.—Dr. Andrew F. Currier of New York contributed a paper which will appear in the MEDICAL NEWS.

Tetanus Following Celiotomy; with Report of Two Cases.—Dr. Henry C. Coe of New York contributed a paper on this subject. In his introductory remarks he stated that tetanus is such a rare complication of abdominal section that many operators of large experience have never had a case. Confident in the power of thorough asepsis to overcome the most virulent germs, we are apt to forget that there still remain some which resist the ordinary methods of sterilization, and against which we seem to be powerless to act, because as yet we do not understand their mode of development, and the nidus most favorable for their growth. Statistics have shown that the disease is especially fatal after ovariotomy and hysterectomy. Tetanus is a rare cause of death after aseptic operations, as shown by reviews of various hospital records. Environment seems to make little difference. In Bellevue Hospital, where conditions are apparently most favorable to development of tetanus, this is almost unheard of, except as the result of wounds received before the patient is admitted. In the General Memorial Hospital, on the contrary, where the conditions are infinitely better, two fatal cases have occurred since the hospital was opened (1887), and both in the service of the writer. In both cases tetanus followed clean operations, after a normal convalescence, and under conditions which were quite inexplicable.

In the first case there was double salpingitis and cystic ovaries were removed. Perfectly simple operation. Convalescence afebrile, though patient was very nervous. Primary union of wound. Out of bed in sixteen days. Complained of slight sore throat and trouble in swallowing. Twenty-first day, up and about. Slight stiffness of neck. Twenty-sixth day, slight spasm of muscles of jaw. Thirty-second day, diagnosis of tetanus made, and 25 c.c. of serum injected under skin. Swallows with some difficulty, but no other symptoms. No rise of temperature and general condition good. Thirty-fourth day, still takes nourishment. Additional injection of serum. During next two days general convulsions. Death on thirty-sixth day. The second case was one of panhysterectomy for fibroid uterus and diseased ovaries and tubes. Absolutely normal convalescence, until ninth day, with primary union, when patient had slight stiffness of the neck. Tenth day, could not swallow. Serum (50 c.c.) injected into vein. General convulsions during night. Second intravenous injection. Death on eleventh day. In neither case were specific germs found in blood or neighborhood of wound. There was increased difficulty of diagnosis, as both patients were hysterical and had no rise of temperature or other symptoms. Treatment was of no avail, though begun too late in first instance. The cases occurred eighteenth months apart, and no others developed in the hospital before or since. No cause was discovered, either in technic, condition of patients before operation (both were in good health and had been long under observation), or climatic conditions. Questions for discussion are (1) Can we pre-

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vent the development of the disease, and how? (2) Can we avert the fatal result by prompt resort to the use of antitetanus serum or other treatment? The answer to these questions in the class of cases under consideration is thus far a negative one. It seems to be impossible to discover and act directly upon the focus of infection when it is within the abdomen.

Election of Officers.—The following officers were elected for the ensuing year: President, Dr. S. C. Gordon, Portland, Maine; First Vice-President, Dr. George M. Edebohls, New York; Second Vice-President, Dr. Edward Reynolds, Boston; Secretary, Dr. J. Riddle Goffe, New York; Treasurer, Dr. J. Montgomery Baldy, Philadelphia. Atlantic City, N. J., was selected as the place for holding the next annual meeting.

AMERICAN MEDICAL ASSOCIATION.

Fifty-Second Annual Meeting, Held at St. Paul, Minn., June 4-7, 1901.

SECTION ON PRACTICE OF MEDICINE.

THIRD DAY—JUNE 6TH.

(Continued from page 971.)

Amount of Pericardial Effusion.—The amount of fluid contained in the pericardial sac may often be very large. A French surgeon removed the surprising amount of ten liters from the pericardial sac. When the effusion occurs slowly the symptoms are not very acute. Rapid effusion soon causes the heart to labor.

Purulent Pericardial Exudate.—Notwithstanding that the exudate has become purulent, it may be absorbed, leaving scarcely any residue, or it may burrow, finding its way out of the pericardial sac into neighboring structures. The abscess thus formed may point through the precordial region. It may bore through a rib or may by pressure absorption find its way through the sternum. The collection of pus may point in the back, following the course of the vertebræ and simulating very much a Pott's abscess. The abscess may find its way into the lungs, producing a pyopneumonia and pyopneumopericarditis.

Results of Absorption.—When a collection of pus becomes absorbed from the pericardium, there is nearly always considerable residue left. This is prone to calcify like other pus residue and the pericardium may become covered with an inner coating of a hard, bone-like substance. This calcified material may force its way between the layers of the heart, producing serious interference with its function.

Myocarditis.—As the result of a serious pericarditis the heart muscle nearly always becomes affected. Fatty degeneration may set in and active dilatation of the interior of the heart may be the result. More important even than fatty degeneration, which is, however, most familiar to the clinician, is the fibroid interstitial change. As the result of this marked hypertrophy of the heart may occur.

Etiology of Pericarditis.—Dr. Robert B. Preble of Chicago gave, as the result of a series of observations on some 240 cases of pericarditis, his conclusions as to the cause of the disease. Acute primary pericarditis does occur, but is very rare. Pneumonia causes about 34 per cent. of all pericarditis. Rheumatism causes 28 per cent., nephritis 11 per cent. Other well-known causes are sepsis, aneurism and typhoid fever, though they are much less important as etiological factors than the two first named pathological conditions.

Pneumonia as a Cause.—The more extensive the pneumonia, the greater the danger of the pericarditis. The pericardial sac is more apt to be involved with left-sided rather than right-sided pneumonia. Unilobar pneumonia causes pericarditis in one case in forty; bilobar pneumonia in one case out of ten. The mortality of pericarditis complicating pneumonia is very high, amounting to nearly 90 per cent.

Nephritis and Pericarditis.—Pericarditis occurs as a complication of all forms of the nephritis. The coexistence of these two conditions is always ominous for the patient. It is a question whether nephritic pericarditis is due to the presence of toxic, irritating principles in the blood, or to the existence of microbes, which gain a foothold in the tissues because of the lowered resistive vitality due to ineffective elimination.

Primary Pericarditis.—This form of the disease grows rarer as we learn more about the condition. It is probable that there is always some port of entry for the infection though it is often difficult to find it. Where it can not be found the pericarditis is considered as primary. Out of 240 cases of pericarditis, twelve were apparently primary, or idiopathic. After careful autopsy only two were left in this class, and at least one of these was doubtful.

Adherent Pericardium and the Effect It Produces on the Heart and General Circulation.—This paper was read by Dr. Robert H. Babcock of Chicago. It will appear in a subsequent issue of the MEDICAL NEWS.

Pericarditis and Pancarditis.—Dr. Alfred Stengel of Philadelphia read a paper on the relation of pericarditis to endocarditis and myocarditis. He said that pericarditis causes danger in three ways. First, by presenting a focus of infection, second, by the effusion causing mechanical interference with the heart's action, and, third, by being a starting-point for further inflammatory lesions. The mechanical danger from pericardial effusion is not as great as used to be thought. When endocarditis and pericarditis occur together, the heart is usually so crippled that life does not last long. Fortunately this combination is not common. The spread of the inflammatory process to the myocardium is, however, very common. Pancarditis, an inflammation of all three structures, is not as infrequent as might be imagined from its rare men-

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tion by clinicians. As a matter of fact the danger in both endocarditis and pericarditis comes more from the involvement of the myocardium than from any other element.

Myocarditis.—Myocarditis has been well recognized by the pathologists for a good while, but has not received its due meed of attention from the clinician. Practically the only form of myocarditis which does receive due attention clinically is fatty degeneration. Cardiac fibrosis is not uncommon with pericarditis. There is always some affection of the muscle, even though this may not produce clinical symptoms. Very slight involvement of the myocardium may produce disturbance of the heart rhythm.

Future of Pancarditis.—Jürgenson says that pancarditis will undoubtedly be the diagnosis of the future in many heart affections now considered to be limited to one part of the heart structure. The prognosis of any form of heart lesion depends on the extent to which the myocardium may be involved.

Tuberculous Pericarditis.—Dr. C. F. McGahan of Aiken, S. C., said that tuberculous pericarditis is much more frequent than has been thought. Many an obscure case of heart trouble in severe anemic conditions, or in tuberculosis of other organs, is really due to a tuberculous pericarditis. Later in the disease there will come a form of cachexia as the result of interference with nutrition through the circulation. When the pericardial sac is aspirated the bacilli may or may not be found. When they are found the diagnosis is clear. Negative examination, however, gives no assurance, because bacilli are often infrequent and inoculation experiments are needed in order to demonstrate their presence. Dr. McGahan reported two cases of tuberculous pericarditis which have come under his observation. In one of them there was tuberculosis of the right apex with cavity formation but the condition had been quiescent and the case was progressing very satisfactorily when suddenly pain and dyspnea developed. The pulse rose to 160 and the temperature 102°. Death took place from tuberculous diarrhea. In the second case the physical signs of pericarditis were present and, as the heart was laboring, some fluid was evacuated. No bacilli were found in this by microscopic examination, but a guinea-pig inoculated with it died with cheesy tuberculous pus at the point of inoculation. Death took place with Cheyne-Stokes breathing. No tubercle bacilli were found in the sputum at any time. The autopsy showed a typical case of tuberculous pericarditis.

Cardiac Lesions in the Negro.—Dr. Frank Jones of Memphis, Tenn., read a paper on this subject. Dr. Jones said that contrary to the usually accepted text-book opinion the most common cardiac lesion in the negro is not mitral regurgitation, but aortic regurgitation. A venous hum is heard much more commonly in negroes suffering from anemia than is the case with white patients. Mitral regurgitation is seen with reasonable frequency, but it is not nearly so frequent as aortic regurgitation, nor does it occur so often as aortic stenosis. Often in cases of mitral regurgitation there is no previous history of rheumatism.

Etiology of Aortic Lesions.—Dr. Jones said that the most active factor in the production of aortic disease in the negro is undoubtedly syphilis. On the other hand there is no doubt that among them active acute syphilis has more to do with the production of mitral regurgitation than has acute rheumatism. In the negro it is not an uncommon thing to find precocious syphilitic running its course very rapidly. The three usual stages of syphilis are compressed into one. Periods of the disease are suppressed and lesions of the different stages follow one another without intervals. Another striking peculiarity is the fact that negroes do not seem to recover completely from the disease. Mercury relieves most of the symptoms, as it does in the white, but relapses are more frequent and periods of the disease supposably past for good recur and run an obstinate course. Gonorrhea and tuberculosis cause mitral lesions in the negro.

Pericarditis in the Negro.—The most common cause of pericarditis in negroes is undoubtedly pneumonia. Pneumonia is, as is well known, quite fatal in the negro race. The complication of pneumonia and pericarditis is extremely common. The absence of pericarditis in the negro during an attack of pneumonia is more the exception than the rule. This pericarditis often becomes purulent and is not infrequently entirely missed by the attending physician.

Treatment of Pericarditis.—Dr. Frank Parsons Norbury of Jacksonville, Ill., said that the essential basis of the treatment of pericarditis must be absolute rest. After the first stage of pericarditis patients are apt to suffer from little inconvenience and so this rule is often violated. A bland and unirritating diet is required and milk forms the best. In severe cases an absolute milk diet is needed. Hemmeter describes a sudden death after a full meal during the course of a pericarditis. Dr. Norbury has seen two cases of pericarditis diagnosed as gastritis.

Absorbefacients.—The best internal remedy to produce absorption is undoubtedly the salicylates. In all cases of rheumatic pericarditis, in all cases of pericarditis, rest must be insisted upon. The affection invariably improves if the patient is kept absolutely at rest. Diuretics may also be employed for their absorbefacient effect and the bowels must, of course, be kept thoroughly open. Blistering may have a good effect in starting the absorption of the fluid from the pericardial sac.

Pain.—Pain is usually the most striking symptom and the one that most urgently demands treatment. Cold applications are often very soothing. An ice-bag to the chest or a coil of cold water may be employed. Cold seems also to arrest the effusion. When cold is not borne well, heat often answers the same soothing pur-

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pose. Hot cloths may be placed on the precordium and frequently changed. A blister often serves a useful purpose in allaying pain.

Restlessness and Insomnia.—Where this is a prominent symptom, the bromides must be freely employed and the principal doses of the remedy given in the evening, for it is most needed at this time. Sleep is very important in these cases, because the more rest the patient gets the less work the heart has to perform. Where the restlessness is due to irritation of the overworked heart, a combination of digitalis and strophanthus will often prove effective. A diuretic that relieves the pressure on the circulation will sometimes prove useful in these cases and for this purpose calomel in small doses and continued for a long time is the best.

Mechanical Interference.—There should undoubtedly be more frequent tapping of the pericardial sac in order to relieve the laboring heart by the removal of the effusion, which causes so much interference with its function. Whenever dyspnea becomes a prominent feature of the case and a small rapid pulse develops, with physical signs of a large amount of effusion, the pericardium should be tapped. Brentano insists that there is more danger in this operation than is usually thought. According to him the heart is always pushed up toward the chest-wall and may be punctured. He prefers to resect a rib and to puncture the pericardium, after the sac has been freely exposed. The operation of tapping the pericardium has been done a number of times, however, and only very rarely has there been any serious results.

Causes of Pericarditis.—Dr. Delancey Rochester of Buffalo said in opening the discussion that the two principal causes of pericarditis are undoubtedly pneumonia and rheumatism. In serious pericarditis the result is often fatal, not so much because of the pericarditis itself as of the existence of a general toxemia which caused the pericarditis and also involvement of the heart muscle. One of the most prominent symptoms of pericarditis and the one that most frequently calls attention to the condition is excruciating pain. This may take the form, in mild cases, of substernal distress. The toxemia is the important condition to treat. In most cases of pericarditis the kidneys, the skin and the bowels should be freely employed to eliminate the toxins present in the circulation. The best remedy for the pain and for the encouragement of absorption is undoubtedly leeches. They are entirely too little used at the present time.

Recognition of Pericarditis.—Dr. James J. Walsh of New York said that the occurrence of cases even in the practice of careful diagnosticians in which the pericarditis was recognized only postmortem shows how easy it is for this affection to be missed. As a rule, the physical signs are so characteristic that it would not be missed if the slightest suspicion of its presence is aroused. The important thing, then, for the practitioner is to know what symptoms should call his attention to the pericardium. The most prominent sign is the pain. This occurs in the majority of all the cases. Tenderness is a still more common symptom and is present practically without exception. The touch of the fingers, or the stethoscope over the precordium, is complained of at once. After the tenderness the feature that should arouse suspicion is the fluttering wave-like character of the heart impulse present in all thin patients. If the patient is put in a good light, this may even be seen. The precaution of examining in a good light should not be neglected. When the apex beat can not be felt, the patient, instead of being asked to sit up and then stoop far over as is sometimes the custom, should rather be asked to turn over on the face and by pulling up the knees somewhat assume the genupectoral position, not a difficult matter, when the apex beat can always be felt. While in this position the distance between the apex beat and the outer border of heart dulness can be determined and, when this is larger than normal, it constitutes the best sign that we have of effusion in the pericardium.

Pericarditis and Peculiar Symptoms.—In a certain number of cases pericarditis is associated with peculiar reflex symptoms. The phrenic nerve passes along over the pericardium and interference with it may cause pain at the insertion of the diaphragm, especially behind the sternum and along the ribs and at the lower dorsal vertebræ behind. The winding of the recurrent laryngeal nerve around the great vessels at the upper part of the pericardium sometimes gives occasion for symptoms along its distribution. The pains may be referred to the shoulder, the neck, the arm, and even the jaw. A condition of spasm may develop owing to connection between the recurrent laryngeal nerves and the pharyngeal muscles. These spasms may arise whenever an attempt to swallow is made. Even the sight of food may cause pharyngeal contractions. A true hydrophobia has been noted, as the result of a large pericardial effusion.

Rheumatic Pericarditis without Arthritis.—It is well recognized now that rheumatic endocarditis and pericarditis may occur and run their course without any arthritic symptoms. The pericardium and endocardium, especially the ends of the valves really represents joints in the tissues, that is, places where tissues are discontinuous in order to be able to move easily on one another. Such tissues are always covered by serous membranes and partake of the character of joints, whether they be in the limbs or in the trunk. That rheumatism should affect such joints without affecting other joints is not surprising, since monoarticular rheumatism is not infrequent.

Recurrent Laryngeal Paralysis.—Dr. Herrick of Chicago said that the recurrent laryngeal nerve may be affected by pericardial effusion and by consequent adhesion so as to produce paralysis of the vocal cords. Such recurrent palsy may even take place from dilatation of the left auricle.

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In cases of extensive effusion into the pericardium, there is nearly always some dulness to be found.

Surgery of Pericardium.—Dr. Carl Beck of New York said that the existence of adhesions of the pericardium to the heart undoubtedly interfered very seriously with the heart's action. There are certain cases in which the existence of synechia of the pericardium can be definitely recognized. In these cases the adhesions may be freed by surgical interference. Surgery of the pericardium involves no more danger than surgery of the pleural cavity. Abscess of the pericardium should be opened at once and drained. There need be no fear of serious result if patients are not allowed to run down too much before operation. A form of pericarditis that has not been mentioned by the medical men is that in which the rupture of an abscess of the liver takes place into the pericardium.

Symmetrical Gangrene.—Dr. Carl Beck of Chicago reported a case of symmetrical gangrene of the hand. With the X-rays the atrophy of the third phalanges of the fingers could be seen very distinctly. At the same time a proliferation of the bony material of the other phalanges could be noted. The case seems typically one of Raynaud's disease, but the proliferation of bony tissue is a new symptom that has never been noticed before in these cases. When gangrene of one of the fingers set in, amputation was performed and later on the same operation had to be performed on a corresponding finger of the other hand.

FOURTH DAY—JUNE 7TH.

Pseudosmallpox.—Dr. T. J. Happel of Trenton, Tenn., presented a further report of pseudo or modified smallpox. This represents observations made in a series of four hundred cases that had come under the writer's observation since he took up the question of modified smallpox last year. The important characteristics of this disease, which seems not to be true smallpox, are that it is much milder than smallpox, that it runs a much more rapid course, that it is comparatively non-contagious and that many vaccinated persons suffered from the disease within a short time after successful vaccination, while the unvaccinated frequently escaped.

Illustrative Cases.—Dr. Happel described one case in a child, who continued to go to school until the desiccative stage. Though friends in the house acquired the disease, none of the children who attended school at the same time were affected. Dr. Happel saw thirty-five to forty cases of the disease in one day in eight different families, yet found only one of the patients sufficiently ill to be in bed. This was a man who had been vaccinated successfully not long before, while many of the other cases were not vaccinated.

Mildness of the Disease.—In country districts children were often out of school only for one or two days during the period of invasion. As soon as the eruption took place, they felt so much better that they wanted to go to school again. In some districts the disease was so mild as to give much less inconvenience than vaccination. One board of health that considered the disease to be smallpox said it was easier to acquire protection by an attack of the disease itself than by vaccination. Only two deaths took place during the epidemic in Dr. Happel's knowledge. These were said to be due to smallpox. One of them occurred in a very old man, whose kidneys and heart were in a very bad condition. The other took place in an old woman, who drank by mistake a carbolic-acid and chloride-of-potash gargle.

Observations by Others.—Friends of Dr. Happel have reported to him a series of cases which have been under their care suffering from a disease like that so familiar to Dr. Happel. One physician, a member of the Tennessee Medical Association, had seen one hundred and six cases of the disease, only seventy of which occurred in non-vaccinated people. Thirty-six of the cases occurred in patients who had excellent signs of having been vaccinated and most of them within the year. The cases were no severer in the non-vaccinated than in the vaccinated. Soldiers who saw a good deal of smallpox during the war, and some of whom had suffered from the disease themselves, said that the cases around them were not at all like the smallpox they had seen and nursed.

Old and New Smallpox.—Dr. W. L. Beebe of St. Cloud, Minn., said that he had seen two epidemics of smallpox twenty years apart. The latter epidemic is of so slight a type as to resemble chicken-pox more than smallpox. Twenty years ago there was no difficulty as a rule in diagnosticating smallpox. During the present epidemic even those who had large experience with the disease before, often found it necessary to send to the secretary of the State Board of Health. In one case under Dr. Bebee's care, the husband, who had pitted pox before, acquired the disease from his wife, although the sister and child, who had not been vaccinated, did not acquire the disease. The vaccination seemed to modify the course of the present disease very little if at all. Dr. Beebe is not a disbeliever in vaccination, but states the facts of the present epidemic as they have come under his observation.

Sanitation of Smallpox.—Dr. Leroy of Memphis, Tenn., gave some points on the sanitary management of smallpox. For scattered cases he thinks that local treatment with isolation is better than transfer, because of the danger of communicating the disease. Cases are better taken care of by the State Board than by local boards of health, because of the danger of local influence interfering with quarantine. Reports of the disease should be made by telephone, so as to avoid the carrying of infection. All exposed persons should be isolated for a time and not allowed to go around until the symptoms of the dis-

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ease actually develop. As a rule, health authorities cannot expect the conscientious support of affected persons and their friends. Formalin disinfection is reasonably cheap and is effective. In old tumble-down cabins, such as one finds in the South, it is impossible to disinfect by formaldehyde gas, because of the number of openings for its escape. In these cases sulphur fumes, if abundantly used and developed rapidly, have been found effective.

Hypodermic Vaccination.—Old, unglycerinated vaccina, may contain a number of foreign micro-organisms and no true vaccine virus. It will then give rise to what looks not unlike a genuine vaccine sore, yet affords absolutely no protection. Dr. Leroy has found that hypodermic vaccination gives less risk of septic infection and, especially in unclean patients like the negroes, is less liable to be followed by complications. The injections should be made into the skin not through it, and the groove of the needle should be held downward. Where large numbers are to be vaccinated, this can be done much more rapidly than by the ordinary method, with much less discomfort, and with much more assurance of success. Secondary infections are preventive to a great extent, and the habit that negroes have of rubbing sputum on the vaccination marks is rendered harmless.

Diagnosis of Mild Smallpox.—Dr. Heman Spalding of Chicago said that the diagnosis of mild smallpox, as in the present outbreak of the disease in this country, presents certain difficulties and yet none that make differentiation of the disease impossible. When the present epidemic began in Chicago, some of the cases were diagnosed impetigo contagiosa, Cuban itch, giant varicella, and the like, but these terms were evidently dictated by the disinclination to call cases smallpox. During the last twenty-seven months there have been two hundred and seventy-five cases of smallpox in Chicago, which began from a pair of negro cases imported into the city with the original diagnosis, varicella.

Characteristics.—None of the cases in the present epidemic were without the characteristic eruptions, though some thirty cases of smallpox *sine eruptione* were seen in 1894. In only one case was there a preliminary erythematous eruption. Only confluent cases gave any mortality. Many cases were modified by vaccination. No confluent cases occurred in persons who had previously been vaccinated. Abortive forms of the disease were seen in those recently vaccinated. The fact that 177 mild cases of discrete smallpox occurred among unvaccinated patients shows how lacking in virulence was the epidemic. Patients invariably feel better after the eruption makes its appearance. The preliminary fever, practically always necessitated confinement to their houses, while the relief felt during the eruptive stage gave occasion for patients to go out to work. Two hundred and sixty-one of the patients had never been successfully vaccinated. Of those who had been vaccinated, the actual occurrence of true vaccinia could be doubted in many cases. Mild cases were kept in the wards alongside severe cases, and yet never contracted the disease a second time, nor a severer form of the disease. One case that was diagnosed chicken-pox by four doctors was declared by the board of health smallpox and was proved to be such by the fact that three relatives, who had been exposed, developed hideously confluent forms of true smallpox. There can be no doubt that the disease now under observation is true smallpox and not any intermediate disease.

Smallpox and Chicken-pox.—Dr. Frederic Leavitt of St. Paul, Minn., said that the average mortality of the present epidemic has been less than two per cent. No other infection has proved so mild. Undoubtedly in many cases it gives less trouble than vaccination. There is no question, however, of its being true smallpox. In certain doubtful cases, where supposed chicken-pox was not strictly quarantined, serious cases of true smallpox developed as the result of contagion.

Smallpox.—Dr. Bracken of St. Paul, Minn., said that the mistakes of diagnosis in smallpox are often not due to entirely disinterested motives. Dr. Bracken has had under treatment six hundred and sixty-two cases of the disease. Only ten of these occurred in people previously vaccinated, and out of these only two had been recently vaccinated. One patient, with pits from an old smallpox thirty-five years ago, contracted the disease again. Dr. Bracken saw several successful cases of vaccination after previous variola. In one case a young woman, who had had very mild smallpox, had herself vaccinated in order to get evidence for a damage suit to prove that the smallpox diagnosis was wrong. She suffered, however, only from modified vaccinoid. The length of time during which vaccination affords protection is very different in the individual cases. One woman in Paris was vaccinated successfully every six months for three years.

Pseudosmallpox.—Dr. Bailey of Kentucky said that Dr. Happel's position with regard to pseudosmallpox was unfortunate and hurtful. Whatever the disease may be in Tennessee, when it crosses the line it becomes smallpox in Kentucky. Smallpox may run a very mild course, as it is doing generally in the present epidemic and yet be true smallpox with occasional cases of the virulent affection occurring, to show that it is true smallpox.

Intermediate Diseases.—Dr. James J. Walsh of New York said that in the last fifteen years we have come to admit the existence of a third disease, German measles, between measles and scarlet fever. Recent observations point to the fact that there is perhaps a fourth disease in this group. We know how hard it is to recognize mild smallpox from severe chicken-pox. The Vienna school of dermatologists, the best diagnosticians in cutaneous diseases in the world and with ample opportunities for the study of both diseases, have not as yet entirely given up the

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idea that the two diseases are closely related to one another and are not essentially distinct. It would not be surprising, then, if perhaps a third disease sharing the characteristics of smallpox and chicken-pox should be found to exist. Dr. Happel's observation seems to point to some such conclusion. Certainly the only thing that can be done is to encourage careful clinical observation of the disease, during the frequent opportunity for investigation furnished by the present epidemic.

Pseudosmallpox and Vaccination.—Dr. Happel in closing the discussion said he wished it to be distinctly understood that he is no opponent of vaccination—on the contrary he is one of the strongest advocates in Tennessee of the protection it affords. By calling it pseudosmallpox he does not mean to convey the impression that the disease should not be segregated, nor isolated, but he considers that in Tennessee, at least, physicians are in the presence of a mild or modified form of smallpox that requires further study in order to determine its exact position as a contagious disease. If it is given some such name as pseudosmallpox this will encourage further careful observation in the matter.

BOOK REVIEWS.

WHITMAN'S ORTHOPEDIC SURGERY. For Students, Practitioners and Specialists. By ROYAL WHITMAN, M.D., Adjunct Professor of Orthopedic Surgery, New York Polyclinic, Instructor in Orthopedic Surgery in the College of Physicians and Surgeons, and Chief of Orthopedic Department in the Vanderbilt Clinic, New York. Lea Brothers & Co., Philadelphia and New York, 1901.

THIS is a branch of surgery which lends itself with the greatest facility to pictorial illustration. The diseased conditions are visible and not less so are the therapeutic means and results of treatment. We have, therefore, in this handsome volume an abundance of diagrams, a wealth of photographic reproduction and a good supply of skiagrams. They all add clearness to the text which of itself reflects the clarity of the author's views of the practical questions and situations with which the book is replete.

Especially full and satisfactory are the discussions of the prevention of the deformity of Pott's disease, the "exercise treatment" of lateral curvature of the spine, and the management of that large class of deformities and disabilities less interesting to the general reader and practitioner, but still of great importance, which have their origin in nervous lesions. The author has not lost sight of the fact that this special branch of surgery is largely preventive, that its patients are chiefly infants and young adolescents and that its best achievements are not so often found in successful operating as in the strictly orthopedic procedures which foresee the evils of postponement and secure ultimate good results by an alliance of mechanical skill with growth and the natural reparative forces. It may be said that no subject in the range of orthopedic surgery has escaped without due practical attention. Of especial value are the authoritative sections devoted to Coxa Vara and The Weak Foot.

A Text-Book of the Practice of Medicine. By DR. HERMANN EICHHORST, Director of the Medical Clinic at the University of Zurich. Authorized Translation from the German. Edited by AUGUSTUS A. ESHNER, M.D., Professor of Clinical Medicine in the Philadelphia Polyclinic, etc. With 84 illustrations. In two volumes. W. B. Saunders & Co., publishers, Philadelphia and London, 1901.

PROFESSOR EICHHORST, though the head of a great Swiss clinic, is one of the most practical and conservative of German clinicians. His larger work on special pathology and therapeutics is one of the standard authorities for consultation all over the world. His shorter text-book on the practice of medicine is in German one of the most popular books for ready reference in medicine for students and practitioners. The book deserved well to be translated and the translation is well done.

Notwithstanding the number of text-books on medicine that we already have, this book deserves a place in American medical literature, because it reflects very thoroughly yet briefly European medical practice. Few text-books of medicine are so complete and so well done in every department. The paragraphs on treatment are especially satisfactory and always suggestive. As a rule, they represent Professor Eichhorst's own clinical experience.

The illustrations are many of them pictures observed by the author himself and they add not a little to the value of the book. The editorial work has been well done. Occasionally Professor Eshner has done well to suggest certain practical points in therapeutics that the experience of physicians outside of the Continent has made worthy of trial. The work is in two handy volumes and will make an excellent authority for consultation, especially for those who are not in a position to follow German medical literature in the original.

BOOKS RECEIVED.

The MEDICAL NEWS *acknowledges the receipt of the following new publications. Reviews of those possessing special interest for the readers of the* MEDICAL NEWS *will shortly appear.*

A SYSTEM OF PHYSIOLOGIC THERAPEUTICS. Edited by Dr. S. Solis Cohen. Vol. I. Electrotherapy by Dr. George W. Jacoby. 8vo, 242 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia.

APPENDICITIS, ITS PATHOLOGY AND SURGERY. By Dr. C. B. Lockwood. 8vo, 286 pages. Illustrated. The Macmillan Company, New York.

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ORIGINAL ARTICLES.

THE IMPORTANCE OF A RECOGNITION OF THE SIGNIFICANCE OF EARLY TUBERCULOSIS IN ITS RELATION TO TREATMENT.[1]

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IT would seem almost unnecessary to emphasize the importance of making an early diagnosis in tuberculosis. To reach a positive conclusion before the disease has caused extensive lesions or seriously impaired the patient's resistance, or before a simple tuberculous deposit in the lungs has become complicated with secondary infection, is obviously a matter of vital importance to the patient. The records of the autopsy-table and the clinical results noted in truly incipient cases where intelligent and radical measures are applied at once, bear ample evidence to the curability of the incipient stages of the disease, while the terrible fatality of the malady after it has seriously impaired the general health needs no comment.

The results obtained at sanatoria have demonstrated not only that the disease is curable, but that it is curable in direct proportion to the stage at which the treatment is applied. The published reports of the Adirondack Cottage Sanitarium show conclusively the value of an early diagnosis. During the years 1897-98-99, of 113 incipient cases, 82, or 72 per cent., were discharged from the institution apparently cured, while of 151 advanced cases only 27, or 17.8 per cent., recovered, and not one of 59 far-advanced cases was discharged apparently cured.

No doubt the diagnosis of incipient tuberculosis presents often many difficulties. Our standard as to what constitutes a truly incipient case should constantly be made more rigid. Persistent slight cough, with loss of flesh and strength, a slight afternoon rise of temperature of one-half to three-quarters of a degree, and constant lassitude, are symptoms which even without any appreciable signs on physical examination, point in many cases to incipient tuberculosis, but which are too often disregarded. Perhaps too much importance is attached to the absence of any normal signs in the chest, and the case is not looked upon as being tuberculosis until the stethoscope gives ample evidence of its presence in the lung; and yet we know that often all the rational symptoms of the disease are present long before the lesions can be detected by physical examination; that miliary tubercles in the lung may give no appreciable signs; and that physical examination cannot be expected to detect the onset of tuberculous infection in central portions of the lungs, or in the glands and deep tissues and organs of the body. Search for the bacillus should be begun early and persisted in as long as any doubt as to the diagnosis exists. Much time and zeal is wasted in the meaningless task of counting the number of bacilli as a guide to prognosis which would be employed to better advantage for the patient in searching for the bacillus while the symptoms are still obscure. The microscope has been of invaluable aid in the diagnosis of tuberculosis, and when the bacillus is found there is no appeal from its decision; but its absence from the expectoration is not necessarily a conclusive criterion. We should not wait always until the tubercle bacillus is found, for it is of immense advantage to the patient if a conclusion can be reached before it appears in the expectoration, as this does not occur until ulceration of the tubercles has already taken place. Too much stress is laid upon the negative results of the microscopic examination, and much valuable time lost on this account. I repeatedly see cases, beginning with hemoptysis and some failure of health, even when slight afternoon temperature is present from any cause, with or without some physical signs in the chest, where the patient is assured that he has not tuberculosis because one or two examinations of the expectoration have failed to reveal the presence of the bacillus.

In the great majority of cases a consideration of the history of the case and a careful study of the rational signs, with a thorough physical examination of the chest, and a microscopic examination of any sputum obtainable, aided by a careful X-ray examination of the patient when required, will enable the physician to make an early diagnosis. If this cannot be done the tuberculin test has many times helped me to reach a conclusion, and either to reassure the patient or to insist on prompt and radical measures of treatment without loss of time. It is not often necessary to use it, but its value lies in the fact that it is most applicable and will demonstrate the presence, and give corroborative evidence as to the absence, of a tuberculous process in the body in just that class of incipient cases where the usual methods of diagnosis fail. It is in the detection of incipient tuberculosis that its best field of usefulness lies. Where any marked degree of fever is present it is less reliable, as the balance of the heat-regulating centers in such cases is already disturbed and the injections may cause fluctuations of temperature which may be misleading. In my experience it has proved generally reliable and free from any ill effects, and

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has many times enabled me to insist on prompt and radical measures of treatment months before a conclusion as to the true nature of the disease could have been reached by the usual methods. Its more general application in the place of the waiting policy so generally resorted to will in skilful hands warn the patient and the physician of the real danger and save many lives.

A diagnosis of truly incipient tuberculosis would no doubt be oftener made if its all-important bearing on the treatment was more fully appreciated. My experience in going over the histories each year of many hundreds of consumptives would lead me to believe that the grave responsibility which rests on the physician of detecting the disease in its very earliest stages and the significance of doing so in relation to successful treatment are not generally realized. In the great majority of cases valuable time (many months and even years) is allowed to elapse since the first symptoms of ill health appeared before the patient is told the nature of his disease and urged to adopt radical measures for its arrest and cure. Too often he is not told that he has tuberculosis until he can no longer be deceived. His disease is labeled grip, pleurisy, bronchitis, or malaria; he is informed that the blood came from his throat; until persistence of the symptoms, rapid emaciation, constant cough, hectic fever and sweats, make the true nature of his malady but too apparent, when he is advised to give up his occupation and make a change of climate or seek admission to a sanitarium, only to find that the proposed change is of little avail, or that he has applied too late and cannot be taken at an institution.

Many patients who come under my observation far advanced in consumption have been advised months previously that they were not *ill enough* to make a change of climate and surroundings necessary. In spite of every effort much difficulty is experienced in securing incipient cases for admission to the Adirondack Cottage Sanitarium, and 70 per cent. of applicants give histories which make it evident that some of the symptoms of tuberculosis have been present for from one to three years before they were advised to apply for admission. The examiners for the Massachusetts State Hospital for the Treatment of Tuberculosis refuse about 60 per cent. of all who apply, because their disease is too far advanced. About the same proportion is refused in our examinations at Saranac Lake, and of the remaining 40 per cent. admitted not more than one-half are really incipient cases.

Recently a gentleman, a member of this Association, who for years has given his services as examiner in a large city for the Sanitarium, made to me the rather discouraging statement that not a single really incipient case of tuberculosis had ever been referred to him for examination. These facts do not look as if the profession was very generally impressed with the importance of an early recognition of the disease, or its significance in relation to treatment.

The real difficulty which often exists in making an early diagnosis, the desire of the patient to remain at home as long as possible, the apparently mild character of his indisposition, and the disinclination of the physician to alarm him, explain in a great measure the waiting policy which is so often adopted. The difficulty of making a diagnosis is not always responsible, however, for many cases show from the first symptoms which are almost unmistakable, such as hemoptysis, enlarged lymph-nodes, dry pleurisy, ischiorectal abscess, or night sweats, but are allowed to continue for months and sometimes for years without a knowledge of the true nature of their disease, or urged to adopt the necessary measures for its arrest and cure.

The increased opportunities for observation enjoyed by physicians in charge of sanatoria have already made very evident to them the significance which the early recognition of the disease bears to its successful treatment. At the Massachusetts State Hospital for the Treatment of Tuberculosis, patients are admitted from the list of those who have passed the necessary examination, not in the order in which they have applied, but according to their physical condition, the most favorable cases for treatment being taken first. Dr. Weicker, at the Berlin Congress, stated that, at his Sanatorium near Goebersdorf, of the cases which he classes as "in initial state," and which were discharged as cured in 1896-97-98, 97 per cent. were still at work on January 1, 1899, while, on the same date, of those who when they entered the Sanatorium, were classed as "advanced phthisis with destructive process," and discharged during the same years, 77 per cent. were dead.

From my own experience I foresee that although the open-air method and sanitarium régime have given renewed hope in the treatment of this fatal malady, the results obtained in the many institutions now projected or already built will be disappointing unless the all-important bearing of an early diagnosis in the successful treatment of the disease is more generally realized.

A STUDY OF SOME COMPLICATIONS AND SEQUELÆ OF TYPHOID FEVER.

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(Concluded from page 989.)

Respiratory System During Convalescence.—Abscess and gangrene of the lung are occasionally met with at this period of the disease but are extremely rare. Remlinger did not meet with either condition in the autopsy records of 315 cases. A pleurisy, typhoidal in origin, some-

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times occurs to which we have already referred. Stenosis of the larynx is reported by Eshner.[24] The stenosis first manifested itself by hoarseness and the difficulty in breathing which rapidly became marked. The condition gradually subsided leaving some edema of the arytenoids. Lockard[94] reports a case of laryngeal stenosis due to abscess of the arytenoid. An extremely rare complication was seen by Dettling and Remlinger,[92] a pneumothorax following pulmonary infarcts. During the stage of convalescence the danger of tuberculosis is imminent when owing to the lowered vitality of the patient a tubercular infection may be planted upon a pneumonic patch or a latent nodule may break down. Milian[95] states that dulness, rough inspiration and râles at the right apex are not unusual in typhoid fever. This may give rise to a diagnosis or a fear of tuberculosis but he asserts that the condition always disappears. Prolonged irregularity of fever with some pulmonary signs are not infrequent, and may also give rise to a fear of tuberculosis but the fear is he thinks usually baseless.

Circulation During Convalescence.—Myocardial changes are not of unusual occurrence in typhoid fever, at least histologically, and are found in nearly all fatal cases. Guyard[30] states that the myocarditis may be benign; may be fatal in its results; or it may give rise to chronic changes after recovery from the fever. Remlinger in a study of 315 autopsy records found the cause of death to be due to degenerative changes in the heart muscle in 11 cases. Burland[96] studied the vascular system in 250 convalescent soldiers. He found in a large proportion of them that the pulse was rapid, small and compressible with signs of early cardiac dilatation. He mentions one man apparently convalescent who suddenly collapsed from acute heart failure. At autopsy the left ventricle was found to be dilated and the muscles thin and soft. Phlebitis, particularly of the femoral veins, may occur at any time, is far more frequent as the fever declines, and during the stage of convalescence than at other times. An unusual complication of the veins is reported by Munro and Workman[89] where as a result of thrombosis of the mesenteric veins gangrene of the large and small bowel, above and below the ilio-cecal valve, followed. Gangrene as a result of arteritis is not common. While it usually occurs during the active period of the disease or early during the convalescence, it may occur very late, as in a woman reported by Ansen[78] who developed gangrene on the eighty-eighth day. Arteritis may also give rise to a hemiplegia. In a case reported by Osler in *Studies No. III.*, the stroke occurred in the tenth week, and Ansen[78] reports one as late as the ninth week.

Blood During Convalescence.—Thayer[47] in an extended review of all cases of typhoid fever treated in the Johns Hopkins Hospital, 829 in number, shows that the secondary anemia which develops during the height of the disease gradually disappears after the fourth week. The fourth week marks the lowest point in the great majority of cases. In cases of short duration, however, the fall may continue during the first week of convalescence. The average loss of red cells is about 1,000,000 per c.mm. The hemoglobin is equally reduced but its return to the normal percentage occupies a longer time than the regeneration of the red cells. The colorless cells, which are usually diminished in number may, in the later stages of the disease, especially in severe forms, show an increase. Of the individual white cells the lymphocytes, both large and small, are increased during convalescence. The polymorphonuclear neutrophiles are diminished and the eosinophiles may be increased during convalescence.

Alimentary System in Convalescence.—Flexner[47] in writing of unusual forms of typhoidal infection believes that a localized cholecystitis or infection of the gall-bladder will eventually be recognized. Camac believes that infection of the gall-bladder by the bacillus typhosus occurs from the intestinal tract, and that the bacilli may lie dormant, causing no disturbance for long periods, even years. If, however, gall stones are present or there is mucous formation, a cholecystitis may develop with ulceration and perforation. Horton Smith[58] points out the analogy existing between the urinary and gall bladder. In the latter, just as in the former, typhoid bacilli may gain entrance without causing any disturbance. Smith is of the opinion that these secondary infections are brought about by the transference of the bacilli through the blood stream. That the typhoid bacillus is not the only cause of cholecystitis during typhoid fever is shown by bacteriological examination. Marsden[58] in reporting a case of cholecystitis caused by the bacillus coli communis states that this germ is not an infrequent cause of the condition. Cushing[98] has reported five cases of post-typhoidal cholecystitis in which pure cultures of the bacillus coli communis were isolated. Richardson[99] has also stated that the frequency of its presence seems to have been an important bearing in producing gall-bladder infections.

Camac has collected 115 cases from the literature. The time of the infection could not be determined in 82 of these cases but in those in which it could be definitely ascertained showed the greatest frequency between the tenth and thirtieth day. From a study of isolated cases reported from time to time it would appear that the infection is more often a complication than a sequel. Camac reports ten cases occurring as a complication and one as a sequel. Gillies[56] among 215 cases observed cholecystitis in five cases, one being of the ulcerative type the result of gall stones. Ryska reports three cases of cholecystitis in two of which there was involvement of the intrahepatic bile passages with some enlargement of the liver. One of his cases was almost chronic in type, lasting for forty days. Camac believes that relapse may be brought about

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by reinfection from the gall bladder before immunity is fully established. Mantovani[100] reports a case in which there were two relapses each relapse being attended by jaundice. In one of Ryska's cases there was a relapse with a return of jaundice and evidences of another attack of cholecystitis, and in a case reported by Hamilton[81] cholecystitis followed a second relapse on the seventy-second day. J. W. Smith[68] met with a case of acute infective cholecystitis in a soldier suddenly seized with pain in the right hypochondrium and vomiting. It is possible this was a case of typhoid infection limited to the gall-bladder, although there was no bacteriological examination made. Still, in view of the fact that enormous numbers of the soldiers in South Africa were stricken with typhoid, it is strongly suggestive of a localized infection.

The symptoms of cholecystitis on which Camac lays most stress are the early appearance of pain in the region of the gall-bladder, tenderness on pressure and a tumor. Jaundice is of doubtful value in cholecystitis depending as it does on blocking of the common duct by a stone or inflammatory occlusion. He also places very little reliance on chills, sweating and temperature. Ogilvie[101] reports four cases of typhoid fever associated with jaundice. In one case the jaundice was present from the onset, in another it developed on the fourth day; both of these cases had marked tenderness over the region of the gall-bladder. The jaundice disappeared as the disease subsided. If this jaundice was the result of typhoidal cholecystitis it is certainly a very early manifestation. In another case the jaundice existed for four weeks prior to the attack of typhoid and was probably catarrhal. In a fourth case reported by Ogilvie jaundice developed during the second week. He gives no details of the case. Janeway[7] has seen no case of typhoid fever complicated by catarrhal jaundice.

Cholelithiasis is a sequel rather than a complication and may give rise to symptoms at widely varying periods from the attack of typhoid fever. Camac reports six cases occurring among the cases in the Johns Hopkins Hospital in *Studies No. III.* The earliest time following the attack of typhoid fever was three months; the latest, twenty years. The relationship between cholecystitis and cholelithiasis is an interesting one. In the first place it has been proved bacteriologically that the typhoid bacilli are in some instances undoubtedly the cause of gall-stones. Owing to their tendency towards clumping they offer a suitable nucleus about which the cholesterin crystals may form. Horton Smith[4] is of the opinion that an inflammatory condition of the gall-bladder arising after typhoid fever in which pure cultures of the typhoid bacilli are found is brought about first by the formation of gall-stones, and that the cholecystitis is secondary. Where the cholecystitis occurs as a complication the gall-bladder may become primarily inflamed without the presence of gall-stones. Cases are reported in which during an attack of typhoid fever individuals have died from ulceration or perforation of the gall bladder as the result of gall stones. In these cases it is highly probable that the gall stones were already present, and by their presence excited the typhoid bacilli to activity. Marsden's[58] case had a perforated gall-bladder in which no gall-stones could be found but usually the suppurative and ulcerative cases are associated with stones. It is quite clear that the evidence of gall-stones may be latent for prolonged periods and doubtless in a great many cases their presence is never detected. Their presence is usually discovered by the ordinary manifestations of gall stone colic except in those cases associated with cholecystitis followed by perforations which of course are more severe in character.

Involvement of the liver itself, aside from some enlargement secondary to gall-bladder infection, is rare. Remlinger noted abscess of the liver three times among the autopsy records of 315 cases. Royer[142] has reported two cases which he designates as the hepatic form of typhoid. In both cases during the second week the temperature fell to normal, there was vomiting, bilious in character, and hiccough. In this connection may be mentioned a subdiaphragmatic abscess found during convalescence from typhoid fever. R. Caton[143] and W. T. Thomas, who report the case, are unable to account for the origin of the abscess. The pus contained typhoid bacilli.

Genito-Urinary System During Convalescence.—While numerous reports have of late appeared with accounts of pyuria or an acute cystitis due to typhoid infection there have been very few in which the condition has become chronic. Young[47] in an extensive report of a case of chronic cystitis following typhoid states that he has been able to find but two recorded cases in the literature. In the acute cystitis of typhoid the urine is acid and irritation symptoms are unusual, the patient in the chronic cases being unable to say when the trouble began. Curschmann[102] reports these cases coming on during defervescence and convalescence and lasting from six weeks to four months. Two cases of hemorrhagic cystitis are reported by Vincent[144]. Both occurred during the third week and showed large numbers of typhoid bacilli. Horton Smith[4] in the Goulstonian Lectures for 1900 states that bacilluria exists in about one out of every four cases of typhoid and that cases so affected are as a rule rather more severe. While it may occur at any time during the course of the disease it rarely occurs before the third week and is even more often delayed until convalescence. He believes that the condition is brought about by bacilli excreted by the kidney from the blood and multiplication in the bladder. The urine under these circumstances is acid, turbid in appearance with a shimmer when shaken, and contains ranging amounts of albumin. Pyuria may be associated with this condition. Garnier and Lardennois[146] report a case of pyonephrosis, the pus

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showing the typhoid bacilli. Nephrectomy was first done, and later the kidney was removed, death occurring shortly afterward.

Secondary infection of the testicle and epididymis occurs in the great majority of cases in convalescence. Do[108] reports 39 cases with the following observations: Suppuration occurred in one-fifth of the cases; the testes and epididymis are oftenest involved together, occasionally the epididymis alone; bacteriological examination showed all of the simple cases and most of the suppurative cases to be due to the typhoid bacilli. The onset may be manifested by sudden pain and fever, or may develop insiduously. In the simple cases atrophy may take place while total destruction of the testicle in the suppurative cases is not unusual. Kinnicutt[145] from a report of two cases and a study of the literature finds that while orchitis and epididymitis most often occur as sequelæ some 16 cases are reported as arising during the course of typhoid fever. While sometimes secondary they are usually typhoidal in origin. The lesion, is as a rule, unilateral and involves either the testicle or the epididymis or both and not infrequently the cord. Suppuration occurs in 25 per cent. of all cases but destruction of the entire testicle or atropy are of infrequent occurrence. Constitutional disturbance is very slight. J. W. Smith[58] observed orchitis as a complication in a few instances, but in none of them did suppuration occur. Trasburger[104] mentions a case in which multiple abscesses appeared during convalescence with location of one of them in the right epididymis.

Nervous System During Convalescence.—By far the commonest manifestation of nervous disorder during the stage of convalescence is neuritis, either multiple or localized. The neuritis manifests itself by pain, loss of power and muscular atrophy, the condition being amenable to treatment and usually ending in recovery. Among the convalescing soldiers in South Africa a very common complication was what was termed "tender toes." J. W. Smith[58] states that these cases are characterized by exquisite tenderness of the pads and balls of the sole of the foot unassociated with redness or swelling. Gillies[56] also noted this condition in a number of cases reported by him. J. W. Springthorne[105] who has also seen service in South Africa, reports an officer who during convalescence had numbness of his feet, inability to raise the toes, inability to evert the feet, dragging of the toes and atrophy of the leg muscles. Other cases also occurred, according to this officer, who attributed the trouble to the use of the "puttes" which were tightly strapped about the legs. In this way it is probable the peroneal nerve became pinched near the upper end of the fibula.

Hysteria occasionally develops during the convalescent stage, and in ten cases reported by Osler[47] it occurred in each instance in a male. In a case reported by Jacquet and Lacarre[106] the hysteria was associated with hemihyperesthesia, vesical paresis and polyuria.

Meningitis, the result of infection of the meninges by the typhoid bacillus, is reported by A. Hoffman[107] and a second instance by Laignel-Lavastine.[147] In discussing meningitis, the result of typhoidal infection Hoffman believes that where there is no evidence of the presence of a purulent exudate the condition is caused by the presence of toxins in the meninges. Paralysis of the acute ascending variety (Landry) has been observed in five cases by Ganiez[106]. He also reports five cases, one his own, in which symptoms of both a spinal and peripheral lesion existed. This last type was characterized by an acute ascending paralysis, with partial recovery, followed by hyperesthesia and atrophy of the muscles (does not mention whether this case occurred in convalescence). According to Joseph Baylock[109], psychic disturbances occurring during convalescence are always of a graver import than those arising during the height of the disease. The disease often leaves a greater or less intellectual enfeeblement, sometimes a slight disturbance of intelligence with partial or total loss of memory. There may be an ambitious delirium, actual mental aberration and various forms of chronic insanity. Mania is by far the most frequent manifestation and is usually of short duration. In an epidemic of typhoid among the insane George Boody[41] states that complete recovery from insanity occurred in ten cases while a temporary improvement took place in a few others.

Hubbel[17] states that complications involving the eye seldom develop during the height of the disease and that this is especially true of oculomotor palsies and optic nerve atrophy.

Typhoid Spine. (Spondylitis typhosa).—Mention of this condition was made in the previous essay. The condition was originally described by Gibney who believed it to be due to a perispondylitis. Osler[110] reported three cases and as the result of an analysis of the symptoms believes it is a form of neurosis, in some cases at least, on the ground that prolonged periostitis without suppuration is unlikely. Instances have since been reported by Quincke[111], Könitzer[112] Schaptz, Lovett and Withington[50]. The symptoms may be delayed for some weeks after apparent recovery from the disease. The first manifestation is severe pain in the lumbar region of the spinal column, a rise in temperature and intense pain on movement of the trunk or pressure over the spinous processes. More or less pronounced paresis of the lower limbs follows, with, in some instances, shooting pains. The patellar reflexes are ultimately lost and there may be incontinence of urine and feces. In the case reported by Lovett and Withington the reflexes were exaggerated and ankle clonus was present. This case would also indicate that there may be organic changes, as was asserted by Gibney, for, there was distinct swelling over two of the lumbar vertebræ. In distinction from Pott's disease, with which spondylitis may be confused, suddenness of onset taken in conjuction with a recent attack of typhoid fever is important.

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Unusual Complications.—Addison's disease first appearing during the fifth week of typhoid fever, is reported by H. W. Evans[114]. The patient was a girl aged seventeen who was seized with vomiting attacks and tachycardia during the fifth week. A week or ten days later pigmentation of the skin appeared above the pubes, extending to the nipples and axillæ. Cardiac asthenia and emaciation steadily progressed and in two months from the onset of the symptoms the patient died.

Exophthalmic goiter in a male appearing during convalescence is reported by Benoit[115]. During the first week of convalescence tachycardia set in, followed in about two weeks by tremor of the hands. Still later exophthalmos and enlargement of the thyroid gland were noted. The symptoms were invariable and at times the patient became very emotional. It should be stated that his grandmother and an aunt had goiter.

Suppuration of the thyroid gland was observed by Schudmak and Vlachos[116]. At the onset of the attack of typhoid fever slight enlargement of the thyroid gland was noted. A month from the onset the gland became enlarged, tender, and the skin over it reddened. Examination of the blood showed a progressive leucocytosis. Incision of the gland revealed pus from which the typhoid bacilli were grown in pure culture. They formed the conclusion from experiments that the typhoid bacillus is capable of producing pus, except the most virulent which act too rapidly, and that the leucopenia of typhoid fever does not depend on the virulence of the germs but on their localization in the chief sites of leucocytic formation. A second instance of suppuration of the thyroid gland is reported by R. J. Godlee.[148]

Wind swallowing is reported by Reuter-Sonderburg[117]. A woman during the third week was seized with sharp pains radiating from lower end of sternum, dyspnea and great distention of stomach. She went into collapse and unconsciousness. On passing a stomach tube an odorless gas escaped but no dilatation of stomach was present. This procedure had to be repeated at intervals to avoid collapse. Distention was attributed to the swallowing of air owing to presence of mucus in mouth.

Relation of Epilepsy to Typhoid Fever.—L. P. Clark[118] examined several hundred epileptics for the purpose of finding what influence typhoid fever had in the etiology of epilepsy. He takes a view opposite to that held by Dide as in only one instance was he able to find that the attack of typhoid fever had any bearing on the epilepsy. Gillies[56] observed typhoid fever twice in epileptics. In one case the number and severity of the fits increased as the fever subsided; in the other no fits were observed while the case was in the hospital.

Relapse and Recrudescence.—A relapse may be of two kinds, first, that which occurs after a definite period of apyrexia, and, second, as "intercurrent relapse," so called because reinfection occurs when the temperature has nearly reached normal only to rise again. The former is by far the most common form. The frequency of relapse varies largely with different authorities. Osler in *Studies No. III.*, found 10 per cent. among 829 cases, while Blackader among 100 children, noted it in fifteen instances. While a recrudescence is usually attributed to some indiscretion in diet, or to excitement or to the so-called "bed fever," cases are occasionally seen in which it is difficult to distinguish between recrudescence and a true relapse. Osler[47] in his recent report cites a case illustrating this difficulty. One relapse is the rule but cases not infrequently are seen in which two or more are noted. Atkinson[119] reports a man who following a period of pyrexia on the fifth day had a relapse lasting twenty days; this was followed by another period of apyrexia when on the eighty-seventh day he had a second attack lasting for thirteen days. Thus the entire attack extended over a period of one hundred days. J. W. Smith[58] found disturbances of temperature as convalescence was coming on, or had been established, extremely common in the military hospitals of South Africa.

Second Attack of Typhoid.—Reinfection with typhoid fever a considerable period after complete recovery is established is extremely uncommon, but Nest[120] investigated 118 cases with reference to recurrence and found 10, giving a percentage of 8.5 per cent. This, however, seems somewhat too high and would probably be greatly reduced were larger numbers of cases investigated. Among his ten cases, the recurrence occurred at periods varying from 45 years to 7 months. Curiously enough, of the two cases which died, the greatest time had elapsed since the first attack, namely, 45 and 25 years. One case which had an attack after an interval of 24 years recovered. Etienne[29] reports a remarkable case in which three attacks occurred in a woman. The first in her 27th year; the second in her 44th year, and the third in her 57th year, the patient surviving. He also gives details of 35 cases of double attacks. Larquier,[63] writing of typhoid fever among the insane, reports ten cases of recurrence.

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[147] La Semaine Médicale, 1901, No. 2.
[148] Lancet, June 1, 1901.

TREATMENT OF DIABETES MELLITUS.[1]

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MUCH has been written on the causation of diabetes mellitus and more on the treatment of this disease, but until we have found the exact etiological factor or factors in its production our treatment must be influenced by the symptoms of individual cases.

Of course, when syphilis and functional nervous disorders produce a glycosuria the treatment is simple enough; such cases form rather a small percentage of those who suffer from this malady. By far the larger number are those in which no cause is known. Each case must, therefore, be specially considered and the treatment instituted according to whether it be a mild or a severe type of the disease.

The treatment accordingly should be directed toward (1) eliminating the amount of sugar in the urine and blood, (2) maintaining the nutritive equilibrium of the patient or even increasing it, (3) maintaining or increasing the function for assimilating carbohydrates, and (4) the prevention of complications. To accomplish these several objects the treatment resolves itself into dietetic, hygienic and medicinal. Naturally much depends upon the type of the disease, and the class of patients we have to treat. It has been my custom in treating this affection to divide my cases into the mild and severe forms, whether the origin be pancreatic, neurogenic, gouty, or bacterial. How do we differentiate these types?

By the mild form is understood those cases of glycosuria in which by the removal of carbohydrate food the urine loses its glucose entirely, or it is reduced to an infinitesimal amount, without much influence on the weight of the patient. These cases are generally seen in persons past middle life, although sometimes in youth also.

In the severe type the sugar does not disappear from the urine, notwithstanding the entire withdrawal of carbohydrates. There is great wasting; acetone, diacetic acid, even B-oxylbutyric acid are frequently present, generally with an increase of urea, ammonia, etc., in the urine. Such cases are not infrequently seen in young individuals and among the poor and laboring classes.

There is some tolerance for carbohydrates in all forms of the disease, more, of course, in the mild than in the severe type. As it has been repeatedly proven that in a mixed diet (proteids, fats, plus carbohydrates) the carbohydrates not only produce by their oxidation animal heat and energy, but also prevent destructive disintegration of animal tissue, it is a great error to exclude carbohydrates entirely from the food of diabetes, except for the purpose of diagnosis or in the beginning of dietetic treatment.

Voit has shown, and it has been repeatedly verified, that in order to maintain nutritive equilibrium an average adult requires at least 2,500 kilo-calories of food daily (carbohydrates, proteids and fats.) A kilo-calory is the amount of heat required to raise one kilogram of water one degree Centigrade. In speaking of calories in this paper, I refer always to the large or kilocalory. It is known that 1 gram of carbohydrates represents 4.1 calories, gross; 1 gram of proteids represents 4.1 calories, gross; 1 gram of fats represents 9.3 calories, gross.

A diminution in the amount of any one of these foods must be replaced by a corresponding amount of calories of either of the other two foods.

As the prime object in the treatment of a mild case is to diminish the hyperglycemia and glycosuria, we must begin by excluding carbohydrates from their food, replacing them by other forms. It is best to do this gradually taking at least three or four days to come to the point of total exclusion, and keeping this up for three or four weeks until the urine becomes free from sugar. In this way not infrequently the tolerance for carbohydrates becomes re-established and maintained, and the function for assimilating them increased, so that after several weeks or months of treatment these patients receive quite a liberal quantity of carbohydrates in their food, amounting to as much as 80 to 100 grams daily, which may be cautiously increased.

This method of dieting in the mild cases may be sufficient to keep the urine constantly free from sugar, the patient maintaining his nutritive equilibrium and nitrogenous balance; he may even increase in weight. It stands to reason that such patients must be kept under observation and, of course, the same method of dietetic regime repeated in case of the reappearance of sugar in the urine.

In those cases in which a small quantity of sugar still persists with this method of dieting, and where the nitrogenous elements in the urine are increased, it will be necessary to greatly reduce the proteids with the carbohydrates, substituting for them their caloric value in fats. Frequently the carbohydrates and proteids may be advantageously replaced by milk. Many diabetics, both in the mild and severe type, will assimulate a large quantity of lactose without showing much if any increase of sugar. In fact, milk forms an important factor in the diet in the majority of my cases. Should this method of treatment, together with judicious medicinal treatment, fail, the case is undoubtedly a progressive one and must be classed in the category of the severe form.

[1] Read before the Section on Medicine of the New York Academy of Medicine.

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In the severe type I am extremely cautious about the dietetic treatment, and, when the urine reacts to Gerhardt's test, a strict rigid diet is to my mind a grave error and very injurious. But when Gerhardt's test is negative, when the quantity of urea is normal or not much increased, and when the patient is still in the prime of life, a strict, rigid diet should be enforced in the beginning, providing the loss of weight is not too great and nitrogenous elements, such as albumens, etc., are absent in the urine. In many of these cases there is an increased nitrogenous metabolism and here the aim should be not so much to diminish the sugar excretion as the nitrogenous waste and the production of diaceturia. This may be accomplished by the administration of carbohydrates and fats and diminution of the proteids. While such cases are under diet it is important that the sugar excretion should be estimated daily, and the general condition of the patient, his weight, the urea and if possible the ammonia excretion must be carefully watched. Any decrease in weight and presence of diacetic acid in the urine would be an indication to increase both carbohydrates and nitrogenous foods at once. Briefly stated, in diabetes of very severe type fats may be allowed *ad libitum*, proteids, and carbohydrates, in the shape of starches and bread, in moderate quantities.

The question of food, its quantity and kind, is a troublesome subject for the physician; for, while it may be a comparatively easy matter in hospitals and private clinics to measure out and weigh the exact quantity of food diabetics must receive and be guided in this by the excretions measured and analyzed daily, in private practice this is almost impossible. For this reason it is well to formulate briefly the caloric values of the most important foods so that a diet table may be quickly drawn up, taking into consideration of course the caloric value lost by the excreted sugar.

Referring to the tables of Rubner, it is seen that individuals of different weight and occupations require a different quantity of calories per kilogram as follows:

TABLE I.

Daily Allowance for Individuals With Easy Occupation or Doing Moderate Work.

Weight	Calories
80 kilograms	2,864 or 35.8 calories to 1 kilogram of weight
70 "	2,631 " 37.6 " " " "
60 "	2,368 " 39.5 " " " "
50 "	2,102 " 42.0 " " " "
40 "	1,810 " 45.2 " " " "

TABLE II.

Daily Allowance for Individuals Doing Laborious Work.

Weight	Calories
80 kilograms	3,372 or 42.2 calories to 1 kilogram of weight
70 "	3,094 " 44.2 " " " "
60 "	2,792 " 46.5 " " " "
50 "	2,472 " 49.4 " " " "
40 "	2,129 " 53.2 " " " "

Bearing these in mind it is quite easy to remember that one egg represents about 80 calories; lean beef or fish, as many calories as its weight in grams; very fat beef or mutton, three times as many calories as its weight in grams; butter, eight calories per gram; wheat bread, two and a half times as many calories as its weight in grams, 50 per cent. of its weight being carbohydrates; good gluten bread two or three times as many calories as its weight in grams, 30 per cent. of its weight being carbohydrates; alcohol, about 7 calories per gram.

The caloric value of few other articles may be referred to in any of the recent works on this subject. Thus the whole diet question can be systematized easily. I refer to the following two tables giving briefly the diet and the bill of fare for a day of two diabetic patients of different type and weight.

Example of a Rigid Diet for a Day for an Individual Weighing 60 Kilograms and Requiring 2,368 Calories.

250 grams of white fish		à 3 calories per gram		=750 calories	
100 "	boiled mutton	à 3	" "	=300	"
100 "	lean ham	à 4	" "	=400	"
50 "	cheese	à 4	" "	=200	"
5 eggs, each		50	" "	=400	"
				2,050	calories
Add for oil on salad, asparagus, cucumbers, spinach, or cauliflower				300	"
Total				2,350	calories

A bill of fare from the above example might be made up as follows:

8 A. M. One cup of tea with saccharine; 3 eggs and 50 grams of ham for dish of ham and eggs.

10 A. M. One cup of bouillon with 1 egg.

1 P. M. One cup of clam broth; 250 grams fried white fish; dish of asparagus or spinach with French dressing; 100 grams roast lamb with mint sauce; salad with oil and vinegar; 25 grams of cheese; demi-tasse of black coffee.

7 P. M. Three scrambled eggs; 50 grams of broiled ham; salad; 25 garms of cheese; one cup of tea with saccharine.

10 P. M. One dozen small clams or oysters on shell.

Example] of a Mixed Diet for a Day of an Individual Weighing 7 Kilograms and Requiring 2,630 Calories.

30 grams of cheese		à 4 calories per gram		=120 calories	
100 "	smoked tongue	à 4	" "	=400	"
100 "	veal	à 1½	" "	=150	"
50 "	ham	à 4	" "	=200	"
200 "	pompano	à 2	" "	=400	"
2 eggs, each 80 calories				=160	"
				1,430	calories
Add for butter and oil on salad				350	"
" " 1 pint milk				350	"
" " vegetables and bread				500	"
Total				2,630	calories

The bill of fare from the above example might be divided as follows:

8 A. M. One cup of coffee and milk with saccharine; 25 grams of wheat bread and butter; 50 grams of ham.

10 A. M. One cup of bouillon.

1 P. M. Six oysters or clams on shell; dish of soup with asparagus tips; 200 grams baked pompano with lettuce; 100 grams roast veal; dish of spinach; 20 grams of cheese; 25 grams of gluten bread; 1 baked apple.

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4 P. M. One cup of coffee and milk with saccharine; two raw or soft boiled eggs.

7 P. M. One cup of hot milk; 100 grams of smoked tongue; 100 grams of cauliflower with butter sauce; lettuce; 10 grams of cheese; 20 grams of gluten bread and butter.

The amount of carbohydrates in the portions of bouillon, oysters, clams, asparagus, spinach and cauliflower in the rigid diet list is so small that it need not enter into the calculations of diet, which ought to be changed daily. A glass of Rhine or Moselle wine may advantageously be taken with dinner and supper, the caloric value of which will also help to compensate for that lost by the excreted sugar. Patients undergoing a rigid diet suffer most from the exclusion of bread. This article cannot be replaced by any other article of food although I have found that a few walnuts may serve here. They are very palatable with steaks or chops. Good gluten bread contains at least 30 per cent. of carbohydrates, while almond and aleuronal breads are not palatable unless they contain a large percentage of wheaten flour.

Medicinal Treatment.—There is no subject in the vast domain of medical literature which shows such discrepancies as to the value of drugs as those which have been used in the treatment of diabetes. Where a dietetic treatment removes the hyperglycemia and glycosuria medicinal treatment is not indicated except to correct a faulty stomach or sluggish bowels. Depending on the type and apparent origin of the disease there are some drugs which have a beneficial effect on the excretion of sugar. Among such I will mention opium, arsenic, and the bichloride of mercury.

I use opium for its beneficial effects on thirst and for its general effect on the patient's physical and mental condition. It frequently improves the assimilation of food and allays nervous irritability and often the annoying pruritis. It diminishes the quantity of urine and hence the frequent micturition. It has a decided effect on bolemia for it is often observed that many diabetics consume enormous quantities of food. I have frequently found almost a specific effect from the use of this drug in diabetes associated with neurasthenia, in individuals deeply engrossed in business with its attendant worries. The dose should be small in the beginning, not more than half a grain three times a day, given about an hour or an hour and a half after meals. To get its full effect it may have to be increased to three times this amount. It is a well-known fact that the tolerance for opium and its alkaloids in diabetes is very great. Nevertheless, it must be used cautiously and its constipating effects overcome by cascara or other laxatives.

In severe cases which show Gerhardt's reaction it should never be used on account of the danger of impending coma; nor must it be continued for any length of time in any case.

In the severe type of the disease I have found but little effect from arsenic. In the mild cases it frequently increases the limit of assimiliation for carbohydrates, diminishes the glycosuria and acts as an excellent tonic, especially in those patients who are very anemic and who have had the disease for a long time. In conjunction with diet, or even after a diet and opium treatment, it has given me gratifying results. I employ but two preparations, Fowler's solution and the bromide salt. The latter given in doses of $^1/_{80}$ grain to $^1/_{10}$ grain three times a day in much water after meals.

There are a certain class of diabetics in whom the disease begins about middle life or before. Individuals with an excess of adipose tissue, good livers, who consume great quantities of wines, etc. They exercise but little and hence rapidly take on flesh. The disease commences not unlike an acute infection. Shortly before the outbreak of glycosuria they suffer from malaise, lassitude, cephalalgia and constipation, all symptoms akin to those due to bacterial invasion or ptomain poisoning. When the disease manifests itself the percentage of glucose is found to be very high, and patients rapidly show the effects of a toxic disease. In such cases I feel justified in claiming for the bichloride of mercury a certain, perhaps a specific action in the reduction of sugar and amelioration of symptoms. This fact I pointed out several years ago. The mercury should be given on and off for a period of ten days every month, commencing with $^1/_{12}$ of a grain three times a day and rapidly increasing the dose to $^1/_6$ of a grain three times a day after meals. Usually the teeth and gums of these patients are well preserved and mercury has no effect on them. I have never seen any symptoms of mercurial poisoning when the bichloride is given in the way indicated. Even if the sugar is not entirely eliminated from the urine the patient is restored to a better state of health with entire abeyance of toxic symptoms.

Hygienic Treatment.—The relief of mental anxieties and worries is a *sine qua non* in the hygienic treatment, for it is well known that emotions or nervous shocks aggravate the symptoms decidedly. The patient's surroundings must be made as cheerful as possible and everything done to lighten professional, business and family cares. It is well for the practitioner to dissuade the patient's mind from the gravity of his disease. To him a glycosuria is not so significant a term as diabetes mellitus. The patient must be warmly clad, both in winter and summer, and must keep his skin moist and active by warm baths. Cold plunges and sea-baths ought not to be taken; carbonic-acid baths are very invigorating.

While muscular exercise undoubtedly diminishes the excretion of sugar in nearly all cases, fatigue must be avoided. When conditions are such that exercise cannot be indulged in, massage is indicated; it improves assimilation and promotes a healthy metabolism.

I do not believe in a specific virtue of the

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waters of any of the spas, but they certainly do correct many a faulty stomach and sluggish bowels, two factors of prime importance in this disease. At the spas the congenial surroundings, the regular mode of life, the absence of care, etc., all tend to improve the physical and mental state of the patient.

Complications.—Of the numerous complications of diabetes I will briefly mention diarrhea, tendency to suppuration, phthisis, gangrene and coma. As diarrhea frequently follows a constipation, the latter condition must be avoided. Persistent diarrhea often of tuberculous origin must be treated by a mixed diet, opium, iron and washing out of the intestines. The tendency to suppuration shown by cellulitis and furunculosis is met by diminution of the hyperglycemia and glycosuria and antiseptic local medication.

Phthisis, a very common complication, is the cause of death in about 25 per cent. of the cases. It is, therefore, very important that a diabetic patient should carefully avoid all risk of tuberculous infection. If phthisis should arise a sojourn to a milder climate is advisable, and large quantities of fatty foods with some alcohol must be given.

In gangrene the dietetic treatment must be enforced and the gangrenous parts treated with dry dressings and according to modern surgical principles.

In severe cases of diabetes, which show a marked reaction with Gerhardt's test and evidence of B-oxybutyric acid, the danger of coma is imminent. Such patients must be treated by the allowance of a liberal amount of carbohydrates, especially levulose, vegetables and bread. They should drink a great quantity of water, especially the alkaline waters; acids are to be avoided. In these cases milk should be the article of diet. Medicinally patients ought to have enormous quantities of carbonate of soda, 100 to 150 grams daily, and must be kept quiet and avoid all excitement, exertion and exposure.

When coma has set in, blood depletion followed by intravenous injection of 1 per cent. sodium bicarbonate in a normal salt solution should be used. From one to two liters of this solution may be injected in a short time as practised by Lepine. It is always safer to anticipate this complication than to treat it when it arises.

40 East 60th Street.

CUTANEOUS MANIFESTATIONS IN DIABETES.

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To enumerate all the cutaneous manifestations in the glycosuric or diabetic patient, considered either as coincidental or etiological, would, as I believe, make it necessary to give nearly a full list of the primary and to some extent of the secondary lesions of skin affections. I must naturally confine myself to those occurring most frequently and to those that are in my opinion not only of the greatest frequency, but of importance also. I will endeavor at least to do so in the order of their relative grave significance.

First of all, then, I would name the generalized xeroderma prevailing in the large majority of cases, in which this glycosuric condition or diabetic disease exists. It is a xeroderma of the functional variety, that coming on relatively suddenly in adults or others, and not one congenital, as in the organic form of this affection, in which cases there is ordinarily great diminution, or almost total absence of the glandular elements of the skin. This dry condition of the skin causes great discomfort, and is ordinarily, though not invariably, attended with distinct generalized pruritus—usually the mucous membranes, oral, buccal, lips, etc., have the same symptoms, at any rate, the first, that of dryness, as can be readily seen, and as readily understood, the skin and mucous membranes being so directly analogous in tissue and to a certain extent in function. So marked is this in some cases that the faucial conditions have not unfrequently led me to the first suspicion of diabetes, the patient being examined for existing or supposed catarrhal conditions. The mucous secretion in those cases of the upper air-passages and mouth has a peculiar and characteristic look difficult to describe; it is gummy, and lies in distinct ridges, resembling nothing so much as the "ribbed sea sand" of the poets, or a beach at low water-mark, with the spume of the sea, thrown up into ridges, here and there. This is purely mechanical, of course, and occurs as a result of the adhesive character of mucus.

I have mentioned pruritus as an accompanying symptom in the condition above; sometimes it seems an entity, or disease of itself, as other clearly-marked and objective symptoms are not present, and at first glance there would seem to be no causative pathological or organic disturbance. This condition of pruritus is most aggravating and distressing. It is often, in my opinion, taken for a neurosis of the skin. This symptom alone being present in an individual, without apparent cause, should excite suspicion and should compel a careful examination of the urine, even when from the general florid health diabetes has not even been suspected.

Probably the next in order of frequency would be the eczematous dermatitic manifestations, occurring in any region of the skin, but most prone to attack flexor surfaces, and more especially the genital, anal, and inguinal regions. These eczemas are usually attended with the fiercest itching and should instantly, and always excite suspicion and lead to careful and frequent examination of the urinary secretion; for often the urine will be found glycosuric at one time of the day, and yet the reaction be absent, or almost totally so, at another hour of the twenty-four, so that the examination of the morning water, the so-called *urina sanguinis*, is not sufficient.

In my experience, I think the symptoms produced by an eczema of this nature, in and around

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the genital regions, while not so grave a symptom in significance probably as many others, are more distressing to the patient than any other, and as a rule are those most complained of by him or her. The increased frequency of urination in these cases, the almost inevitable consequent hurry from the frequency with which the act is done, and consequent slight dribbling of urine, over, and about the parts; the drying, and subsequent decomposition of this saccharine urine, will explain this condition in diabetes. Very often the *saccharomyces* and other mycotic parasitic organisms can be found in microscopic examination in full bloom in these situations; and the lesion will furnish a typical picture of the eczema marginatum.

Naturally I have no time or permission to go into therapy in general in these remarks, but would simply state as a matter of experience that cleanliness and antiparasitic lotions of a mild type, frequently employed, are cleaner and much better in the treatment of these conditions than the unguents so often prescribed for their relief. A valuable lotion in my hands has been one of bichloride of mercury, about 1-1000, in a dilute emulsion of bitter almonds, which may also contain a moderate amount of salicylic acid, and resorcin.

Furuncular and carbuncular manifestations are often concurrent as is well known, and are clearly caused by the diabetic state. These lesions and conditions are quite often discretely regional in character. In my experience, the nuchal and gluteal regions show the greatest predisposition. In any patient (certainly any elderly or obese patient, though not confined to them it may be remarked) in whom this condition is manifest or recurrent, the urine should be examined without delay with the same care and frequency as before emphasized. It is astonishing how quickly sometimes this phlegmonous tendency can be controlled, or aborted, on the cause being ascertained and appropriate hygiene, diet, and treatment being instituted. Both in these cases and the eczemas before mentioned, it is something more than carelessness, and approaching criminality, to neglect to try to find out what can ordinarily be so readily discovered by testing the renal excretion.

Erythematous lesions, some evanescent, others of the graver kinds, as erysipelas, are sufficiently common as a result of this glycosuric state, and also gangrene, either relatively superficial or, as after an erysipelas, in the form of gangrene of the extremities, notably the lower.

These are such well-recognized general surgical conditions that they need only to be mentioned as among the lesions produced. I would like to remark, however, that the only times that I have seen erysipeloid manifestations on the fauces and upper air-passages have been in diabetic individuals—at least I could not otherwise class the peculiar inflammatory condition. That condition in those individuals subsided as did other manifestations, under the classical treatment.

A form of vesicular and bullar skin disease, the so-called dermatitis herpetiformis or Duhring's disease has often for one of its etiological factors the diabetic state, although there may, and must be, others that produce this skin affection. I have often found sugar in the urine in cases of this kind, so that I cannot look upon it as a mere coincidence.[1]

As to tumor formations, I do not think one would expect to find cutaneous neoplasms, originated by the diabetic diathesis or state, as ordinarily the conditions prevailing are those of waste, not increase of tissue growth; but there is certainly one, if not two, diseases of the skin of this nature that may be mentioned. They are now quite well recognized. I refer to xanthoma diabeticorum and in my opinion possibly also to blastomycetic dermatitis.

Speaking of the first, the yellow new growth, not so very unfrequently found about the eyelids, and having, as oculists and almost all practitioners know, for its seat of preference and first election, the inner canthus of the upper lid, xanthoma planum, is simulated by growths frequently found in other parts and not unfrequently all over the body in enormous number and quantity in diabetic patients. This peculiar affection, identical in histological character and appearance with ordinary xanthelasma, was first recognized by Mr. Malcolm Morris of London about twelve years ago. Since then perhaps fifty cases have been recorded. I myself have recorded two, the last in the *Journal of Cutaneous and Genito-Urinary Diseases,* September, 1900, for a fuller description of which I refer those interested. The patient had an enormous number of these tumors distributed all over the body and limbs, so that even decubitus in any position was painful, and could not long be maintained, no ulceration occurred. On examining the urine of this patient it was found loaded with sugar, as is usual in those cases. On her being confined to antidiabetic diet almost without other treatment, she was entirely relieved of this affection in a few weeks. On cessation of this diet the eruption reappeared in some degree, again as quickly disappearing under the same régime, this happening again and again and being absolutely commensurate with the degree of obedience of the patient, and thus I think proving in the most distinct manner the etiological connection. The urine tests were effected by the diet in precisely similar ratio. These cases are being now reported with greater frequency, and the same history, or nearly so, applies to almost all.

Of the other neoplasm, blastomycetic dermatitis, I have little personal knowledge, either never having had a case, or else not having recognized it, or else having mistaken it for a verrucose

[1] Of interest in this connection I may mention a case of this kind occurring in a boy, eight years of age, who was under my care last March. I examined his urine carefully, as is my habit in excessively chronic cases of skin disease, and was surprised at the instantaneous, classical, and abundant sugar reaction. Under mild mercurial treatment, alterative and disinfectant doses (as I regard them) of hydrarg. c. cretæ and a decided antidiabetic diet, he became much better, and on examining his urine I now find a comparatively feeble reaction to the test. Is this diabetic or glycosuric state a cause or a consequence? This is the question, and I think a mixed one, for I believe that effect and cause sometimes are difficult to differentiate.

tuberculosis of the skin, which it much resembles. Some of the earliest and best investigations of this peculiar form of skin disease have been made in this country by Gilchrist, Hyde,[1] Montgomery, and others. They find a yeast fungus very plentiful in the tumor and fungations thereof. Curiously enough the urine does not seem to have been examined much, as far as I have discovered in literature. One reason, possibly, why the presence of glycosuria is so relatively infrequently found in the urine of infants and young children may be because of the comparative infrequency of the examination of same. I do not think such examination is often made in the routine practice of the average physician, except during the progress and treatment of the exanthemata, for instance, so few of the degenerative kidney troubles being incident to youth. Therefore transient states of this complication may be often overlooked. As to my own experience I have several times found glysosuric urine in infants (usually those of well-to-do parents), who, from the liberal character of their meals, the abundance, and good serving of same, have been literally stuffed and gorged with the carbohydrates, on the principle that the more they eat, the bigger they will grow. In these cases diminution of the diet, with attention to other conditions, has greatly simplified the treatment and advanced the cure of eczematous and other diseases, and at the same time caused total disappearance of the glycosuric character of the urine.

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DIABETES IN SURGERY.[2]

BY ROBERT T. MORRIS, M.D.,
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DIABETES mellitus presents many points of deep interest to the surgeon. Not many years ago patients suffering from diabetes were practically ruled out from the field of surgery, excepting in cases of great necessity. To-day, with our fuller knowledge on the subject, we operate upon diabetics almost as freely as upon normal individuals.

There seem to be three chief reasons why diabetes interferes with a surgeon's work: First, the sugar circulating in the blood is hygroscopic and it draws water from all the tissues of the body until the tissues are actually too dry. This must interfere with the normal process of repair, and it probably does so in several different ways. It may limit the capacity of the leucocytes for furnishing alexins to meet the toxins, and it may interfere with the proper development of new repair cells. It is not improbable that the gangrene following operations in diabetics is due to a blocking of the small lymph-channels with leucocytes, which are unable to travel freely in surroundings devoid of a normal proportion of moisture. I have been watching for an opportunity to make sections in a case of this sort for microscopic study for three or four years, but none of the diabetics upon whom I have operated during this time have suffered from this complication of gangrene, because of the rigid asepsis employed in these cases. Lymph-channels are more likely to become blocked in the course of sepsis. These are the only cases in which I use rubber gloves in operating. If the wound can be kept perfectly aseptic, so that an extensive local hyperleucocytosis necessary for the purpose of meeting bacteria is avoided, then repair goes on quite smoothly.

I have in the hospital at present an old woman with intracapsular fracture of the neck of the femur. She had about eight grains of sugar to the ounce of urine at the time of the operation four weeks ago. The operation consisted in making a large anterior flap of tissues, exposing the neck of the femur and then spiking fragments with a spike driven through the trochanter and the head of the femur. She was put upon dietetic régime for diabetics and the amount of sugar in the urine diminished to about two and a half grains to the ounce, but the patient was not very controllable and complained so much about the diet that we put her back on mixed diet in two or three days and allowed the sugar to return to the proportion of about six grains to the ounce. The large wound healed by primary union and the patient will be ready to leave the hospital in about a week.

A second reason why diabetics require special attention on the part of the surgeon is because the fluids of a wound loaded with sugar are, in all probability excellent culture media and particularly susceptible to the attacks of bacteria. Rigid asepsis is therefore demanded.

A third reason why diabetics interest surgeons is because the anesthetic may precipitate an impending nephritis in kidneys that have become irritable because of the unusual labor involved in excreting sugar. In these cases I use the nitrous oxide and oxygen anesthesia whenever practicable, and in any event avoid the use of ether. Surgeons see a fairly large number of cases of transitory diabetes following injuries of various kinds, and so many of these occur after injuries which would disturb the semilunar ganglia particularly that I was about to propose a very pretty little theory to the effect that diabetes represented a functional neurosis dependent upon a disturbance of large sympathetic ganglia. Dr. Bailey has undermined this theory by showing that in some cases of experimental diabetes in animals the glycosuria continues after excision of the semilunar ganglia. In this connection I would call attention to the fact that Dr. Opie of Baltimore has supplemented the work of Vonuering and Minkowski on pancreatic diabetes by determining that it is only in cases in which the islands of Langerhans undergo hyaline degeneration that we have diabetes associated with pancreatitis.

I had a patient at the Post-Graduate Hospital

[1] Journal Cut. and Genito-Urinary Dis., Jan., 1901.
[2] Read before the Medical Section of the New York Academy of Medicine.

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some years ago in whom gall-stones had perforated the common bile-duct and had escaped beneath the peritoneum. An extensive hemorrhage followed beneath the peritoneum, large quantities of bile escaped through the rupture. An enormous abscess followed, so that the peritoneum was apparently dissected away from the pancreas which sloughed. I evacuated the large collection of fluid, removed the gall-stones and the neucrotic pancreas, repaired the bile-duct, and the patient made a good recovery. She afterward came into the office saying that she had diabetes, and I referred her to the medical clinic. We could not find her in time to get notes for this discussion, and to learn of the later history of the case.

About half of the cases of diabetes mellitus that occur as a result of traumatism follow injuries of the head, and almost all of the others seem to follow injuries of the liver, kidney, pancreas, stomach or spleen. Cases of traumatic diabetes are apt to be associated with traumatic neuroses of various kinds, and the glycosuria, while transitory in a great many of the cases, may become permanent. In some cases polyuria exists after sugar has disappeared from the urine, and this seemed to support the theory that the liver and kidney were suffering from a functional neurosis emanating from a common sympathetic center and that disturbance of the kidney lasted longer than the disturbance of the liver; but Dr. Bailey has apparently shown that we cannot look to the semilunar ganglia as a center for the reflex disturbance. The surgeon is sometimes called upon to testify that diabetes has followed a trauma, and it has been discovered on several occasions that the patient was suffering from glycosuria previous to the time of his injury; consequently we have to be on our guard in accident insurance cases, and it is not safe to testify to the character of a so-called traumatic diabetes unless we know the history of the patient in the matter of glycosuria previous to the time of his injury.

MEDICAL PROGRESS.

Basal Fractures.—E. QUÉNU and R. TESSON, in discussing the symptomatology of antero-posterior paramedian basal fractures of the cranium, bring out the following points. Usually there is deep coma from the onset of the symptoms and often hemorrhage, commonly nasal or buccal, infrequently aural. Such are the only two frank symptoms elicited, because the coma is often a contra-indication to rigid examinations and an internal hemorrhage may be prolonged by it. Pharyngeal ecchymosis has been very rarely reported in literature, either because it was entirely absent or because it was not looked for by the attending physician. Ordinarily fractures of the floor of the cranium must show themselves by indirect symptoms, *e. g.*, hemorrhage, ecchymosis and paralysis, except in those involving the petrous portion of the temporal bone when often the clinical picture is so exact as to permit a diagnosis of different varieties. In certain cases, probably the majority, the splenoidal sinus is opened, whence proceeds the bleeding. Occasionally the foramen lacerum posterius will be invaded and any of the three nerves in it directly or indirectly involved. The other large sinuses of the skull may also be wounded and give rise to fatal intracranial hemorrhage. With an essentially bad prognosis, the diagnosis rests upon uncertain data and often the postmortem examination will reveal the true state of affairs and show the futility of any intervention.

Spread of Yellow Fever.—Previous to the discovery of the fact that the mosquito is the means of conveying the virus of yellow fever, H. R. CARTER (*Med. Rec.*, June 15, 1901) collected considerable valuable evidence to show that several days must elapse after a house has been infected before another person will be able to contract the disease. In a number of instances it was distinctly proven that at least ten days must pass after a case of yellow fever has entered a house before the virus will become sufficiently developed to infect a second person, and a subsequent period of from three to six days will elapse before symptoms of the disease are manifested. The first period he calls "extrinsic incubation" and in the light of recent discoveries becomes easily explainable, for it is the time which must elapse from the infection of the mosquito by biting a yellow-fever patient to the time the mosquito becomes capable of communicating the disease to man. From this it follows that when a case of yellow fever develops in a clean house the inmates of this house who leave within a few days may be permitted to go without quarantine detention, for they will not develop yellow fever.

Cause of Cancer.—Since Gaylord published his interesting work in reference to the cause of cancer, much skepticism has been shown in regard to the conclusions which he has drawn. A pure culture of the germ was probably not used in any instance and no attempt was made to recover the organism from the cancer which was produced. S. W. BANDLER (*Med. Rec.*, June 15, 1901) points out the evidence which is still lacking to furnish conclusive proof of the germ theory. Blastomycetæ have been found in various chronic affections and their presence in a carcinomatous growth cannot be considered necessarily causal. Although, undoubtedly, the growths which Gaylord produced in other animals were carcinomatous, he used peritoneal fluid and not pure cultures of the organism. He cannot exclude, therefore, the possibility that cancer cells were transmitted. Leopold has shown that from a fresh carcinoma of an ovary a pure culture of blastomycetæ may be obtained which, when injected into a rat, produces a large number of peritoneal nodules (not carcinomatous), but causes death and from these nodules a pure culture of blastomycetæ may be obtained. The

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causal relation of blastomycetæ to the growths produced in animals is proven, but the decision concerning the character of the neoplasms and their relation to carcinoma and sarcoma is to be the controversial point.

Evidences of Intellectuality in Brain Morphology.—Comparative anatomy has been frequently made use of in determining the location of various brain centers, and pathological human brains often assist the neurologist in mapping out the cortical areas, but there is still much doubt as to the exact location of many of the sensory and motor centers. E. A. SPITZKA (*Med. Rec.*, June 15, 1901) has made a comparative study of the brains of several distinguished persons, among them Dr. Eduard Seguin and his son, Dr. Edward C. Seguin, paying especial attention to the size and development of the island of Reil. He believes that in the anterior part of this area is located the speech center rather than in the operculum, as has been held by some. Furthermore, by comparing the human brain with that of the porpoise, in which animal the sense of hearing is probably more acute than in any other, he believes that the posterior part of the insula shares in its development that of the auditory sense center. The anterior portions of the insulæ in the two brains mentioned above were very noticeably developed and convoluted, so much so that they were protruding more than in ordinary human brains. On the other, a lack of development in the opercula might lead to the same degree of prominence of the insula and thus result from an exactly opposite cause.

Cause of Mental Deficiency.—After investigating 10,000 children, F. A. MACNICHOLL (*Phil. Med. Jour.*, June 8, 1901) is thoroughly impressed with the belief that heredity plays an extremely important part in determining the mental capacity of our school childen. Of this number 885 showed more or less mental deficiency; 471 were born of drinking parents; 221 were classed as due to heredity and 153 could give no satisfactory information. He was able to trace the family histories of 463 children through three generations and of these 313 had drinking fathers and 51 drinking mothers. Of these children 76 per cent. suffered from some neurosis or organic disease. In 51 families having 231 children with total-abstinence antecedents only 3 per cent. of children were dull and only 18 per cent. suffered from neuroses.

Knee-Jerks in Chorea.—Gordon has called attention to a peculiar knee-jerk which is frequently present in cases of chorea, and A. A. ESHNER (*Phil. Med. Jour.*, June 8, 1901) alludes to it as a distinguishing point between this disease and spasmodic tic and athetoid movements. It is not always constant, but when present is probably distinctive. With the patient recumbent and the knee raised, while the heel rests upon the couch and the muscles are relaxed, if the patellar tendon be struck the foot rises, but instead of falling back immediately it remains suspended for a variable time, and then sinks back slowly to its original position. Sometimes only a sluggish descent follows the rise. At other times, as the foot begins to descend, it is caught in mid-air and held for a time or even raised again to a higher level than at first.

Spontaneous Cure of Hydatid Cysts.—W. M. STEVENS (*British Med. Jour.*, May 11, 1901), thinks that there are many possible causes for this result. Thus, it may be due to natural death of the parasite—the entrance of bile into the cyst, having a toxic effect upon the parasite; the absorption of the hydatid fluid; inordinate multiplications of the internal brood and lastly, changes in the ectocyst. The length of the natural life of the organism is not known, for active parasites have been found after forty years. Bile does not necessarily cause the death, as the majority of cysts contain no bile. The most widely accepted theory is the absorption of the fluid, but this does not hold good, as many cysts are found to be tense and contain dead parasites. Hydatids of the lung containing daughter cysts are rare, which would prove that the theory of inordinate growth of the internal brood is a wrong explanation of the death of the parasite. The author thinks that the best explanation of the spontaneous cure is found in changes in the ectocyst. The changes are increase of its fibrous tissue or condensation, causing the vessels to become occluded. Dead hydatids are found where the blood-supply is poorest. In many cases there is no puckering or contraction. In hydatids of the lung where the ectocyst is tough, the cyst is small and partly calcareous. Graham also finds in these cases that the tissue about the ectocysts is indurated.

Relationship of Vaccinia to the Inoculated Form of Smallpox in Man.—The transmission smallpox in man to bovines has never given successful results. S. MONCKTON COPEMAN (*Brit. Med. Jour.*, May 11, 1901), agrees with Jenner that it is probable that cowpox may have originally sprung from smallpox in man. He says that it is not improbable that the cracked udders of the cow may have been infected by the hands of persons milking the cows, while they still had upon their arms the vesicles of the old form of inoculation smallpox. He found that if he inoculated monkeys with smallpox in a series, he could then produce with virus taken from them, a true vesicle upon the epidermis of calves. Virus taken in turn from the calf's vesicle would produce a true vesicle upon the arms of children, and that there was no "generalization" of the eruption in any of the cases.

Mild Type of Smallpox.—The Dominion of Canada, says F. MONTIZAMBERT (*Brit. Med. Jour.*, May 11, 1901), is being invaded in some places by smallpox from the United States. So mild is it that in many instances it has been diagnosed as chicken-pox and German measles. The Public Health reports published in Washington show that between December 28, 1900,

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and March 29, 1901, there were 11,964 cases reported. Of these, but 157 died. This gives a mortality of 1.31 per cent. It is suggested that the mildness of the type is due to some meteorological condition. There is, as a rule, little, if any, initial fever, a very sparse discrete eruption and no secondary fever. The patient is not usually confined to bed or even to the house and often does not seek medical aid. In many of the lumber camps it is called the "cedar itch." In the States bordering on Canada there have been 4,433 reported cases. That it is smallpox is shown by the fact that it attacks those who have not been vaccinated and those who have not been for some time. Those recently vaccinated are immune.

Mental Fatigue in School-Children.—Through media of dictation, memory arithmetic and combinations JOSEPH BELLEI (*Lancet*, May 11, 1901) studied the effects of the educational system in vogue in Italy as to the amount of fatigue produced in children. The conclusions he arrived at are interesting. (1) No single subject produced any special fatigue. (2) The first hour of lessons is a useful mental exercise, because the children are able during that time to overcome the state of inattention in which they were at the time of coming to school. (3) The morning lessons do not produce great mental fatigue. (4) The midday rest is of great use to the children, because it does not destroy the good effects of the morning's mental exercise. (5) Although the condition of the mind after the midday rest is at its best, after an hour's work the mental fatigue is so great that the worst work of the day is then done. Therefore if the morning's work does not fatigue, it consumes the mental energy of the children in such a manner that they cannot undertake light work in the afternoon without falling into great mental fatigue.

Etiology of Convergent Squint.—The one essential cause of squint is a defective development of the fusion faculty. This is frequently associated with other developmental defects, namely, hypermetropia and congenital amblyopia. Where the fusion faculty is alone defective, or congenitally absent, there is usually an alternating squint with perfect vision in in each eye, says C. WORTH (*Lancet*, May 11, 1901). The treatment of squint should be to prevent the loss of central fixation in the deviating eye; to prevent deterioration of vision in the deviating eye; to train the fusion faculty at the earliest age; and to restore the visual axes to their normal relative directions. Congenital amblyopia and anisometropia predispose to squint by lessening the value of binocular vision. Heredity is a predisposing factor in squint. Of 1,278 cases studied there was a family history in 1,028.

Diagnosis of Functional Disturbance of Kidney.—Functional renal disorders are far more common than anatomical lesions of the kidney. The two best methods for the determination of the former are (1) the ascertainment of the molecular concentration of the urine and (2) the study of the elimination of methylene blue by the kidney after the subcutaneous injection of 0.05 gram. In a healthy individual, according to the observation of ACHARD (*Prager med. Woch.*, May 9, 1901), the drug will appear in the urine in from fifteen to thirty minutes. There may be a delay of several hours under pathological conditions. The total elimination normally is completed in from thirty-five to sixty hours. In desquamative nephritis this period is shortened, while its prolongation to three or four days indicates renal insufficiency.

Local Anesthesia for Abdominal Section.—Little or no shock follows in certain cases where local anesthesia is employed for abdominal sections, says T. H. MORSE (*Lancet*, May 11, 1901). The causes of shock are the anesthetic and the amount of injury produced upon the nerve structure during the operation. There are some patients who are in such a low state of vitality that general anesthesia is impossible and in these local anesthesia is to be advised. No shock followed in five cases of local anesthesia produced by ethyl chloride. Dr. Morse thinks that the pain is less felt when the patient's condition is very grave.

Diminished Subclavicular Expansion in Infantile Pneumonia.—WEILL (*La Semaine Méd.*, May 29, 1901) calls attention to an important early sign in infantile pneumonia, in which condition tubular breathing and râles are so often lacking in the early stages. No matter whether the base or apex be affected, lack of expansion is noticed in the subclavicular region when the child is lying supine. While in pleurisy with effusion deficient expansion may also exist, it is here proportionate to the exudate, and is found either at the base alone or affecting the entire half of the thorax.

THERAPEUTIC HINTS.

Dilatation in Valvular Heart Disease.—From a study of the pathology of residual dilatation of the heart, there are three main indications: To reduce the resistance to systole within the cardiac chambers; to restore or increase the cardiac force; and to remove the accumulation behind the lesion. The first requires rest in bed, or, if this is impossible, in an armchair with the feet down. The second requires careful selection of diet and cardiac and cardiovascular stimulants. The swiftest of these are ether, ammonia, alcohol, and hypodermics of strychnine. Slower, but more lasting, are digitalis and its allies— strophanthus, squill, senega, caffeine, lily of the valley, etc. These drugs increase the force of the systole, lengthen the diastole so giving rest to the ventricle and time for the veins to empty, contract the peripheral vessels, and presently relax those of the kidneys

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with free diuresis. But, while waiting two or three days for the diuresis of digitalis, purgation, paracentesis, bleeding or potassium iodide may be advisable. The removal of residual accumulations, dropsy and mechanical congestion, with relief of the alimentary, nutritive and eliminative functions, is greatly favored by purgation. A sharp purge is compound jalap powder, calomel, or calocynth. The catharsis may be attended by much temporary depression, but it is followed by relief of dyspnea and cardiac distress. Rapidly developed anasarca of the limbs may be relieved by acupuncture, but the drainage should not be unduly prolonged. The most urgent cases demand venesection with removal of 300 to 900 c.c. (30 oz.) of blood, but, where there is objection to this, wet-cupping or a dozen leeches over the sternum may suffice. With improvement in the condition, these measures are gradually relaxed, and tonics introduced.—J. MITCHELL BRUCE in *Treatment in Practical Medicine.*

Scarlet Fever.—In mild cases, the treatment consists of rest in bed, liquid diet, plenty of water to allay thirst and promote elimination of the poison, and a mild cathartic such as calomel. The free use of milk, buttermilk, water and mineral waters lessens the danger of post-scarlatinal nephritis. For a mild diuretic, potassium acetate answers well and may be aided by the citrate or bicarbonate of potash or sweet spirit of nitre. The nose and throat should be cleaned by spray or syringe with a mild antiseptic, such as hydrogen peroxide. A gargle may lessen the danger of ear complications, and in addition the sore throat is improved by a teaspoonful every three hours of the following:

℞ Tinct. ferri chlorid.....gm. 8.0 (ʒij)
Glycerin. } aa.....30.0 (ʒj)
Syr. Simplicis }
Aquæ, q.s. ad.....90.0 (ʒiij)

The temperature may be controlled by lukewarm or cold sponging, or, if the patient is nervous and restless, by acetanilid, phenacetin, or sodium salicylate. A weak heart may require strychnine, digitalis or alcohol. If the kidneys become involved, give warm baths, saline cathartics, milk diet and water with liquor potass. citrat. Keep up counterirritation over kidneys with poultices and mustard, and promote diaphoresis by hot pack or vapor bath. Convulsions may be controlled by morphine, atrophine, chloral hydrate, potassium bromide or chloroform. Urgent symptoms may demand hot mustard baths, with cold affusions or ice to the head, or even venesection. Morphine is the best remedy to control the pain of scarlatinal rheumatism, but sodium salicylate should be given, and the joint wrapped in a glycerin ointment.—F. D. MILLARD in *Pediatrics,* May 15, 1901.

Meigs' Food.—Soak Russian gelatin or isinglass, gm. 1.3 (gr. xx), in cold water, 240 c.c. (ʒviij, for a few minutes, then boil till the gelatin is dissolved (about fifteen minutes). Add a small teaspoonful of arrowroot first made into a paste with water, then add milk and sugar as follows, and allow to boil for a few minutes. For the youngest children mix two parts of this with one of milk and add two tablespoonfuls of cream and gm. 26.0 (ʒviss) of milk-sugar. For older children from one-half to two-thirds should be milk, to the 50 per cent. mixture, one and one-half tablespoonfuls of cream and gm. 22.0 of sugar being added, and to the two-thirds mixture one tablespoonful of cream and about gm. 16.0 (ʒiv) of sugar of milk. For a child inclined to diarrhea substitute barley or wheat for the arrowroot, and for costive children use oatmeal. Another food useful for indigestion, cholera infantum, diarrhea or dysentery, Meigs made by mixing equal parts of arrowroot-water, lime-water, cream and milk, dose c.c. 60 (ʒij) every two hours. Between the feedings give plenty of cool water with or without brandy, c.c. 4.0 in c.c. 240 (ʒi in ʒviij). After one or two days increase dose to c.c. 90.0 (ʒiij), and gradually diminish the proportion of cream and lime-water till the infant's normal food is reestablished.

Neurasthenia.—Severe cases occurring in women, whether complicated with hysteria or not, are most successfully treated by a strict application of the rest cure. The patient must consent to be the subject of a despotic rule, and peculiar natural qualifications on the part of physician and nurse are essential to the efficient and not disagreeable maintenance of the necessary obedience and cooperation of the patient. Absolute rest in bed, milk diet for a few days, then forced feeding, massage and aloes when needed, constitute the treatment. When somewhat better, an outdoor life without fatigue should be encouraged, with regular graduated exercise and a generous diet. Men seldom submit to the rest cure, but will take up wheeling, golf, rough camping, etc. These occupations should be kept up for a long time. —SANGER BROWN in *Medicine,* June, 1901.

Pneumonia.—When cyanosis appears, nitroglycerin, by its vasodilator action, may intensify the capillary paresis, and, though often valuable, may at times be well replaced by diffusible stimulants such as one c.c. (ɱxv) each of aromatic spirit of ammonia, compound spirit of ether, compound spirit of lavender and tincture of valerian. If used at all, nitroglycerin requires to be given two or three times an hour. Champagne and dry wines are good in small, frequent dosage. Digitalis and other heart stimulants may be given, but strychnine in full hypodermic doses and the valerianate of caffeine, gm. 0.06 (gr. j), every two hours or oftener, are better remedies. To promote the elimination of toxins administer by rectum and subcutaneously a physiological salt solution, sometimes preceding this by the extraction of 500 c.c. (℥ j) of blood from the vein. Finally, the inhalation of oxygen is to be recommended.—R. H. BABCOCK in *Medicine,* June, 1901.

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SATURDAY, JUNE 29, 1901.

OUR ANNUAL TETANUS EPIDEMIC.

THE time for our yearly visitation of tetanus is at hand. Last year there were not nearly so many cases of the disease as the year before, but still some thirty fatalities were reported in the neighborhood of New York. During the ten days immediately preceding and following July 4th last year there were reported to the Coroner of Cook County, Illinois, which includes Chicago, twenty-nine deaths from tetanus. In the same period of the preceding year only seventeen deaths from the disease were reported. It seems, then, that variations in the mortality of the disease are not due to lessened virulence or better precautions, since practically the same sanitary conditions obtain in New York and Chicago, but probably to local meteorological conditions which encourage or inhibit the growth of the bacillus of tetanus.

It has been claimed that long-continued damp weather especially fosters luxuriant growth of this microbe. Dry, hot weather preceding the Fourth of July means the free play of sunlight on streets and thereby the better disinfection of street dirt, for sunlight is the great natural germicide. Our recent damp and late season, with its noteworthy absence of sunlight, may reasonably be expected to portend a larger mortality than usual from tetanus. It is useless to hope for a limitation of the present insensate celebration of the "Glorious Fourth," on the day itself and for a week beforehand, by fireworks and explosives. The toy pistol and the blank cartridge will continue to have their victims and the physician's only hope lies in his effort to avoid as far as possible the enclosure of the tetanus bacillus in the wounds thus inflicted and the use of prophylaxis against its effects if it should find a lodgment in the tissues.

Dr. Gideon Wells (MEDICAL NEWS, June 1, 1901) emphasized the conclusion that the source of the tetanus bacillus in wounds caused by blank cartridge and fireworks is not something specific to these articles, but is the street dirt that finds entrance into the tissues through the abraded skin. We pointed out editorially last year that the immediate occasion for the growth of the tetanus bacillus in such wounds is the fact that the tissues are seared by the explosive that causes the wound. Beneath the seared surface, walled off from the oxygen of the air, the tetanus bacillus which is absolutely anaerobic in character finds a suitable nidus for luxuriant growth. This fact gives the first indication for the treatment of such wounds. They should be laid thoroughly open. If suppuration occurs, absolutely free drainage should be ensured, for pyogenic bacteria may by their consumption of oxygen in the superficial parts of a wound easily provide extremely favorable conditions for the growth of anaerobic bacteria in the deeper parts.

It must be remembered that the first symptoms of tetanus, as usually described—the slight rigor of the muscles of the jaw, the stiffness of the neck and the tendency to slight muscular spasm—are not signs of beginning tetanus, but warnings of impending death from the disease. The tetanus toxin has already reached its favorite location, the great nerve centers. One of the most serious disappointments of serumtherapy was the failure of the much-vaunted tetanic antitoxin to accomplish in human beings what it had effected in animals. The tetanus toxin becomes firmly lodged in the nerve-cells and cannot be neutralized. Even the proposed method of injecting the tetanus antitoxin beneath the dura, to place it more directly in contact with the nerve-cells, has not met with the measure of success it promised.

The tetanus antitoxin is perfectly capable,

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however, of neutralizing the tetanus toxin if it can be brought in contact with it before the toxin becomes fixed in the nerve-cells. To assure this, however, the remedy must be given before any symptom of tetanus shows itself. Whenever, especially in summer, deep or lacerated or seared wounds have had the opportunity of becoming freely contaminated by street dirt, especially by horse droppings, for this material seems to be the principal habitat of the tetanus bacillus, the medical attendant should not hesitate to use antitetanic serum in prophylactic doses. No possible harm can accrue. Tetanus antitoxin has been used in thousands of cases all over the world without a single untoward result or even any unpleasant sequel. On the other hand, the general use of antitetanic serum in the manner suggested would save many young lives that are hopelessly lost if the symptoms of acute tetanus are allowed to develop. In a number of cases undoubtedly the serum would be administered unnecessarily, but the diminished mortality would more than compensate for the exercise of such extra precaution.

"THE OLD MAN OF THE SEA."

In dealing with a problem so stupendous in scope and so hopelessly complicated in its practical application as the tuberculosis question, every advance necessarily broadens the outlook and each new position captured opens up fresh possibilities of attack. The infectious nature of the disease has been recognized for centuries, so that even the older anatomists, like Valsalva and Morgagni, feared to dissect the bodies of consumptives. But it was not until bacteriology had furnished the already existing empirical conclusions with a logical starting-point that efficient sanitary regulations could be made and legal restrictions of sources of peril to the community became feasible. Now that the dangers of close proximity to those diseased in this way are generally recognized and a knowledge of the "infernal machine" represented by each clot of sputum has permeated even to the lower classes, the attention of investigators is being diverted to other elements of the problem. It is not intended to depreciate the importance of what has already been gained or to permit any laxity in the application of all possible precautions, but it is apparent that in some directions, at least, the limit has been or will soon be reached and that, even by the most Draconic legislation, it will never be possible to wholly extinguish this ever-smoldering fire.

The connection between heredity and the phthisical habitus has always been too evident to admit of very serious opposition, but now that researches in other provinces have increased our store of premises it seems but a step to enquire whether, in addition to the now almost universally accepted predisposition, the possibility of an immunity acquired through ancestors may not also be inferred. The notable decrease in virulence in what are, perhaps, next to tuberculosis, mankind's most dreaded scourges, syphilis and smallpox, can hardly be more than partially due to external causes, and the theory of a widespread partial immunization gains color when we consider the frightful ravages produced by these diseases when introduced into virgin soil, such, for example, as has been afforded by the Pacific Islanders. The racial insusceptibility of the negro to yellow fever and the immunity to malaria gradually acquired by whites living in tropical countries are cases in point and if increased power of resistance to such acute diseases is to be borne on through the generations, why not also to a chronic infection like tuberculosis? This is the stand taken by Reibmayr (*Münch. med. Wochenschr.*, Mar. 26, 1901) who believes that the present tendency is too much to place a blind reliance on the hope of enclosing the individual in an artificial prophylactic armor which shall enable him to evade chances of infection, an extravagantly Utopian ideal, instead of fostering the resources of the organism itself and by individual and familiar hygiene promoting and preserving whatever of natural or hereditary immunity we may possess.

Dr. Trudeau's article appearing in this issue is an eloquent appeal for the recognition of another doctrine which has long been preached from Saranac Lake, but is still, judging by the experience of those interested in sanatoria, but little heeded by the general practitioner. Pulmonary tuberculosis, taken in the proper stage and intelligently treated, is a curable disease, and this stage is one that every practising physician can and should school himself to recognize. But once the corner has been turned and the disease from being incipient has become actual, the prognosis is among the darkest in medicine. The gravity of the outlook increases in geometrical progression with the length of time that the enemy has been allowed to operate unmolested. The question is one calling for the rarest good

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judgment on the part of the medical attendant, especially, as is often the case, when he is unable to obtain special counsel. Admitting that the diagnosis is frequently among the most difficult, the conscientious man will give his patient the benefit of the doubt, and at once put him in a position to shake off the disease while there is yet time and before this relentless "Old Man of the Sea" has fatally gripped the breast of his victim.

TRAPS AND PITFALLS IN THE PRACTICE OF MEDICINE.

THE practice of medicine has the tendency to bring out whatever is best in a man. Let his natural bent be scientific, literary, humanitarian, philosophic or business-like, he will find an expression for his tastes in his daily work, and his methods will inevitably be stamped by his predominating characteristics. His road to success, however, is beset by dangers that bear no relation to his skill or conscientiousness. They are not the traps of quackery, but the unseen pitfalls into which the most earnest and competent may unwarily slip in their professional zeal.

For instance, the man who neglects to secure his financial position by careful investments, insurance, and prompt collection of his bills, may arrive at the age when he ought to cease active practice, and yet be obliged to continue to make his daily living. Too often keen, able practitioners develop into querulous, jealous, disappointed old men, because they are obliged to compete with the younger men when they ought to have retired with honors.

The neglect of business methods is one of the commonest pitfalls of medical men. An easy-going doctor will let a patient run up a bill for a year or two until it assumes formidable proportions; and the patient, fearing to be asked for it, will call in another man, and intimate to friends who inquire why the change was made that the doctor was in some way at fault.

The honest physician is constantly losing cases that would be of pecuniary benefit, because he refuses to perform some questionable or unnecessary operation, and when another less scrupulous, man consents to do the work, the honest man is made to bear the slur of implied carelessness or lack of skill to hide the real reason why he is no longer that person's physician. It often happens that when a doctor plainly tells the patient that there is nothing the matter with him, or advises treatment that means self-discipline or active exercise, the hypochondriac or lazy invalid will summon a less disinterested man, and cast inuendoes at the former doctor's professional ability.

The possibility of illness and death from infection and the possibility of social ostracism due to deliberate blackmailing or medical scandal are pitfalls that are too well known to need more than a caution by way of comment.

Dr. J. Dundas Grant in delivering his presidential address before the Hunterian Society of London ("Traps and Pitfalls in Special and General Practice") related a number of interesting personal anecdotes of the narrow escapes he had had from falling into some traps, and the experience he had gained by stumbling into others. He thinks that the errors which result from neglect of physical signs are perhaps greater than those that result from defective investigation of symptoms, but the old family doctor, clinging to symptomatology, and the hospital graduate, keen on physical signs, are equally liable to fall into traps by neglecting to combine these methods of diagnosis. But Dr. Grant warns the younger men that it requires as much sympathetic tact as technical skill to carry out a thorough physical examination, as patients are apt to resent what they call being "pulled about." He cites the case where as a young man he was warned that a certain elderly gentleman did not like to have his heart examined, but feeling that the case demanded an examination, he used his stethoscope and was promptly dismissed.

Those who have made the mistakes that Dr. Grant frankly acknowledges, such as diagnosing lumbago instead of aneurism of the abdominal aorta, catarrh of the uterus, instead of suppuration of the Fallopian tubes, hemorrhoids instead of epithelioma of the rectum, and dyspepsia instead of carcinoma of the stomach, will be interested in his description of the pitfalls he learned to avoid through the instructive lessons of physicians whom he called in as consultants.

But on attaining the rank of consultant himself Dr. Grant remarks that he was much struck with the ease with which he seemed to arrive at the diagnosis of the obscure cases to which his friends called him, as contrasted with the difficulties he had had in analyzing his own cases. The conclusion is evident, he remarks, that a man called in consultation in a particular case, seeing it for the first time when its features are well developed, is in a much more favorable position

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for diagnosing it than he who has watched its gradual development from the outset, and there is need for the charitable and honorable consideration on the part of the consultant toward the practitioner placed at such a comparative disadvantage. The reverse position, however, may call for charity on the part of the family doctor, who calls a consultant for a single examination of a case when it is too obscure to allow of absolute diagnosis. A few hours or days later the symptoms may have developed so that he reads their meaning plainly, and if he is narrow-minded may utter an unfair opinion of his colleague's judgment.

The traps into which the surgeon may fall, for lack of medical knowledge and those that beset the physician who knows but little of surgery, may be best avoided by taking advantage of the special knowledge of one's fellow practitioners. While the family doctor should emulate the exactness of the consultant, the latter should try at the same time to look at the case from the point of view of the general practitioner; for the traps into which both general and special practitioners are likely to fall are many, the former for want of special knowledge, and the latter for want of general regard to medical considerations.

ECHOES AND NEWS.

NEW YORK.

Medical Society of the State of New York.—Dr. Henry L. Elsner, President of the Medical Society of the State of New York, announces the appointment of his Business Committee for the ensuing year, consisting of Dr. Nathan Jacobson, Chairman, 430 S. Salina Street, Syracuse, Dr. George Ryerson Fowler, Brooklyn, and Dr. William C. Krauss, Buffalo. All letters and inquiries pertaining to papers and scientific communications for the semi-annual meeting to be held in New York City, October 15th and 16th, 1901, and the annual meeting to be held in Albany, January, 1902, should be addressed to the Chairman.

Examinations for State Hospital Service.—At a meeting of the State Civil Service Commission held November 9, 1900, it was decided to accept in lieu of the examination heretofore required by the Commission for the position of physician, first and second grades, (including the position of medical interne in the State hospitals) the examinations for license to practise medicine in this State conducted under the authority of the University of the State of New York, and to enter accepted applicants for such positions upon the eligible list in accordance with the ratings obtained by them in the examination for license to practise. In accordance with this action, an eligible list will be made up after the examination for license to be held in June, 1901, containing the names of persons whose applications have been accepted prior to July 1st. The positions are open to men and women. The salary in most cases is $600 and maintenance. Persons desiring to obtain a place upon the eligible list must file applications on the forms provided by the Commission. Such forms will be furnished on application to Chief Examiner, State Civil Service Commission, Albany, N. Y.

New Sanitary Superintendent for Richmond.—Dr. Theodore C. Walser, one of the oldest physicians on Staten Island, has been appointed sanitary superintendent for the Borough of Richmond. The office was made vacant by the recent death of Dr. John L. Feeney.

Health Official Indicted.—Dr. Obed L. Lusk, Deputy Sanitary Superintendent of the Health Department in the Borough of Queens, was indicted by the Queens County Grand Jury last week on a charge of neglect of duty. The indictment is based on the death of John Charlton of hemorrhagic smallpox at Woodside on May 4th. Charlton's body was left in his apartments, which were in a thickly populated tenement house, for fifty-two hours after his death. Charlton was ill for several days and his case was reported to the health authorities, but he was not removed and died while his wife and children stood around his bed, hungry and ill.

Navy Repulses Health Board.—A sharp conflict took place recently between the officials of the Navy Yard and the health authorities of Brooklyn as to the jurisdiction of the latter over patients suffering with infectious disease upon Federal property. The controversy arose over a case of smallpox which was being cared for by the Navy.

Grip Among Horses.—Although there may be some difference of opinion expressed by veterinary surgeons as to the extent of the peculiar epidemic which prevails among the horses of New York, nearly all are agreed that it is serious and likely to become more so within the next few days. The number of afflicted animals has been placed from 15,000 to 40,000. The disease is evidently of bacterial nature and contagious.

Pure Milk in New York.—The Milk Commission of the Medical Society of the County of New York has just made a public statement of its work and incorporating advice as how to secure pure milk. The formation of the Commission was the outcome of a symposium on milk held over a year ago in which many eminent authorities took part. So much interest was aroused that the Society determined to form a commission that should study the best methods of improving the milk supply of New York. In pursuance of this plan, the commis-

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sion held a conference with the milk dealers, invitations having been extended to all the principal dealers in Manhattan and the Bronx. The friendly co-operation of the best dealers was thus earnestly sought, as it was recognized that the subject was beset with difficulties that must be solved, if at all, by the increased attention and labor of those actually concerned in the production and handling of milk as a business. The milk that is daily delivered in New York comes from five States, including thirty-four counties, and comprises more than 1,250,000 quarts. The Milk Commission decided to form a bacterial standard for the purity of the milk submitted to it, as a step in advance for the milkmen. This has been done in several cases with private companies through the country, and it was decided to extend its benefits to any dealer desiring such oversight. The Board of Health looks after chemical composition, and has lately required that milk be not too largely contaminated with bacteria. A circular was drawn up for distribution among milkmen containing the best methods to be employed in producing and handling milk, especially when it has to be transported for a long distance. The rapid deterioration of milk can be much hindered by early preventing its contamination by bacteria present in the dirt of stables, barnyards, upon the cow, and the persons of the men milking and handling the milk. The commission has determined upon a standard of clean milk, and will certify the milk of any dealer coming up to such standard. The work of several competent bacteriologists who have labored for the commission during the past six months, not only examining many specimens of milk, but visiting and carefully inspecting the dairy farms that produce the milk, has shown that milk up to its advanced standard can be sold in this city by observing three precautions: (1) Strict cleanliness, which includes the barns, yards, cows, milkers, and all utensils. Bacteria which get into milk by means of dirt are thus largely excluded. (2) Rapid and sufficient cooling of the milk. The few bacteria that do get in are thus prevented from growing. (3) Thorough icing around the milk until it reaches the consumer. The production of toxins from the growth of bacteria is thus retarded. The milk that reaches the required standard will be certified, as shown by a label. These labels have not yet been given out, as it has seemed best to wait a short interval to see if the standard can be maintained. A dealer may thus have this extra milk for sale, and should get an extra price above his average for it, as his farmer naturally requires more for its production.

Smallpox in New York.—There is so much smallpox in Yonkers that the City Hospital, which is situated several miles from the heart of the city in the woods, is filled to overflowing, and tents which were furnished by the local militia company are being used for the accommodation of patients. Cases of smallpox have also been reported in the Elmira Reformatory, and at the Goshen jail.

PHILADELPHIA.

Typhoid Fever Diminishing.—Health reports for the past week show improved conditions in West Philadelphia so far as typhoid fever is concerned. Investigation of the sewers has been stopped, because of lack of funds. The total number of cases for the city was 61 as compared to 94 the previous week.

State Appropriations for Hospitals.—Much dissatisfaction prevails as a result of Legislative action regarding hospital appropriations. Some of the items have not come under final action, but as matters stand at present the Hospital of the University of Pennsylvania receives no appropriation. Jefferson asked for $300,000 to aid in erecting a new building, but present indications are that only the usual amount for maintenance will be granted, with the possible addition of $100,000. The Medico-Chirurgical Hospital receives the largest amount of any in this city.

Pennsylvania Epileptic Hospital.—This institution, situated near West Chester, received but $2,500 appropriation from the State for the present year. The institution is really a farm where the patients who are able are given light outdoor employment. It is practically the only institution of the kind in the State and, although partly self-supporting, is greatly hampered by lack of funds.

Fourth-of-July Injuries.—Unusual efforts are being made by the authorities to prevent the usual large number of accidents on the Fourth of July. Dealers who sell crackers containing explosives other than ordinary powder are to be apprehended. The Mayor's proclamation also contains the following: "Peremptory orders have been issued to the police to arrest all persons exploding firearms, firecrackers, squibs, chasers, rockets or bombs in the neighborhood of any hospital, home, asylum, or institution for the sick, aged or infirm."

First Cousins May Not Marry.—The bill prohibiting the marriage of first cousins which was recently passed by the State Legislature became a law June 24th, it not having been acted upon by the Governor within the specified time limit. It is stated that Pennsylvania is the eighth State to adopt such a prohibitory law.

Removal of Almshouse.—In pursuance of the plan lately adopted a committee has recently inspected institutions in New York and Boston with the view of removing the Philadelphia almshouse and insane asylum from its present location at Thirty-fourth and Pine Streets. The Committee included Drs. Shoemaker, Tyson, Flexner, Hare, Horwitz, An-

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ders, Ashton, and Kirby, as well as several members of the Department of Charities and Corrections. As a result, members of the Board are to make an inspection of the islands in the Delaware River with the view of determining which of them is the most suitable for the new site of the institutions named.

CHICAGO.

Baccalaureate Sermon By Dr. Senn.—Dr. Nicholas Senn delivered the baccalaureate sermon before the graduating class of Rush Medical College of 1901, June 16th. He took for his text the 48th verse of the tenth chapter of the Book of Numbers, "Standing between the dead and the living." He philosophized upon the mysteries of life and death, and then told of Jesus' power over death, as shown in the stories of the restoration of the daughter of Jairus and of Lazarus. He stated that it is the educated, earnest, conscientious physician who is constantly called upon to stand between the dead and the living. Every act on his part is an attack on the death-dealing influences which jeopardize life, and the struggle continues until human aid can no longer compete with the aggressive, relentless foe. Among the learned professions and different avocations of life there is none that requires greater and more careful preparation, and that imposes greater anxieties and self-sacrifice than the duties of the true physician. From the beginning to the end of his professional career he stands guard over the health and life of his clients. He is with them at the moment of their entry into this world, and he attends them until the destroying angel at last defeats his efforts. Like the Great Physician, like Him who is the Resurrection and the Life, he is always found, "standing between the dead and the living." Dr. Senn eulogized the work of physicians in times of plagues and of war, and paid a tribute to the profession.

Important Medical Decision.—Judge Kavanagh recently announced a decision which is of unusual interest to members of the medical profession. In directing a verdict of not guilty in the suit of Mrs. Agnes Mulhern, against the Post-Graduate Medical School and Hospital, the Judge holds that a physician, while performing an operation for the relief of one ailment, is justified in performing an additional operation, if during the first operation he discovers a condition of the internal organs which renders the additional operation necessary to preserve the life of the patient. Mrs. Mulhern submitted herself to an operation for hernia at the hands of Dr. Franklin H. Martin, June 7th, 1897. After the abdomen was opened, the surgeon discovered that other internal organs were diseased. The patient being under the influence of the anesthetic, her consent to a further operation could not be obtained. He, therefore, performed another operation. Later, suit was begun against the attending physicians and the hospital, because of the second operation. The point that the second operation was necessary to preserve the life of the patient, whose general health is now good, was raised in pleas filed for the defendant by attorneys. An appeal was prayed to the Appellate Court from the ruling of Judge Kavanagh. The State Supreme Court, as yet, has not passed on the point directly raised in this case.

New Hospital in Operation.—The Hospital of the Sisters of St. Francis in Evanston has been opened for the reception of patients. No questions will be raised as to race or religion. The Hospital is almost on the borders of Chicago, and is within easy reach of the various suburbs. Dr. J. B. Murphy is the consulting surgeon. The physicians are Drs. E. H. Webster, W. A. Phillips, W. B. Parkes, D. Kaufman, and Dr. Fintzel. Dr. S. V. Clevenger is the consultant on mental and nervous diseases and Dr. James W. Collins on eye and ear diseases.

Wesley Hospital.—This Hospital was opened informally recently at a cost of $210,000. More than one hundred people have made donations toward the building fund, contributing a total of $185,000. Of this amount the largest part has been subscribed by a few men. The Trustees are making an effort to raise the $25,000 balance.

Chicago Medical Society.—at the forty-ninth annual meeting of this Society, the following officers were elected: President, Dr. Christian Fenger; First Vice-President, Dr. Alexander Hugh Ferguson; Second Vice-President, Dr. Hugh T. Patrick; Secretary, Dr. Frank X. Walls; Treasurer, Dr. David Doherty; Necrologist, Dr. W. S. Christopher. The annual address of the President was delivered by Dr. James H. Stowell. The Society now numbers more than a thousand members. Among other things, the President recommended that the Society publish its own proceedings, and avail itself of the valuable fund that would accrue from legitimate advertising, as well as the satisfaction of having the proceedings of each month published promptly. He also recommended that the Society take a more active part in matters of public and professional interest, and, if possible, aid the Commissioner of Health of Chicago in bringing about reforms that directly or indirectly affect the health of the community. He urged retrenchment in the expenses of the Society in order to establish a fund toward securing a permanent home for the Society, and recommended the appointment of a committee on permanent home. At this meeting an address on "The Streptothrix Infections" was delivered by Dr. John H. Musser of Philadelphia, by invitation.

Laying the Corner-Stone of the Senn Hall.—The exercises incident to the laying of the corner-stone of the Senn Hall were held June

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19th. The stone block was lowered upon the mortar, and Dr. Senn helped the laborers drag it home. In the hermetically sealed metal box which was placed in the corner-stone were deposited photographs of Dr. Senn and Dr. Daniel Brainard, the Chicago daily papers, the University of Chicago and Rush Medical College calendars, the list of faculty members, and a copy of the *Journal of the American Medical Association.*

Appointment of Dr. Hunter.—Dr. Warren H. Hunter has been appointed County Physician by the Board of Commissioners of Cook County.

To Enlarge German Hospital.—This hospital will be enlarged by a building to cover an additional frontage of 75 feet, and to cost $40,000.

State Board Examinations.—These were held a few days ago by the State Board of Health at the Great Northern Hotel. About 125 candidates for license to practise medicine in the State appeared.

Commencement Exercises of Northwestern University.—The forty-third annual commencement exercises of this University were held June 20th. The Northwestern University Medical School graduated a class of 74 and the Woman's Medical College, 19.

Commencement Exercises of Rush Medical College.—The exercises were held at the Studebaker Theatre June 21st. There were 191 students in the class of 1901 who received the degree of M.D. The Doctorate Address was delivered by Professor Richard Burton of the University of Minnesota. The honorary title of Master of Surgery was conferred on Dr. Nicholas Senn. The award of fellowships and prizes was announced as follows: Fellowship in Pathology, Ludwig M. Loeb; Fellowship in Chemistry, Herbert G. Vaughan; Fellowship in Medicine, Alexander F. Stevenson; Edward L. Holmes Scholarship at Wood's Hall, Martin H. Fischer; Benjamin Rush Medal, Leslie Rutherford; J. W. Freer Medal, Robert J. Gay, Class of 1902; De Laskie Miller Prize, Paul Oliver.

GENERAL.

Tuberculosis Among Samoans.—Commander Tilley, the Naval Governor of Samoa, in view of the alarming extent of sickness, particularly among young children, has suggested that American nurses would find Samoa an exceptionally good field for their humane work. He says that in one respect civilization has worked to the detriment of the Samoans. While they lived without clothing they were hardy and free from sickness, but since adopting clothing they get wet from rain, contract colds, and a number have developed consumption, a disease not known before.

Officers of the American Orthopedic Association.—The following officers of the American Orthopedic Association were elected at the recent meeting held at Niagara Falls: President, H. Augustus Wilson, M.D., Philadelphia; First Vice-President, William J. Taylor, M.D., Philadelphia; Second Vice-President, G. G. Davis, M.D., Philadelphia; Secretary, John Ridlon, M.D., Chicago; Treasurer, E. G. Brackett, M.D., Boston. Philadelphia was chosen as the place of the next meeting in May, 1902.

Medical School Destroyed.—During a recent heavy thunderstorm a bolt of lightning struck the College of Physicians and Surgeons, on Harrison Street, Chicago, Ill. The fire which followed the lightning in a short time destroyed the college building, which is one of the finest of its kind in the West. The College of Physicians and Surgeons is the medical department of the University of Illinois, situated at Champaign. The loss on building and equipment is practically total and will approximate $200,000.

Plague at Hongkong.—The plague has broken out in virulent form at Hongkong, according to recent news, and every port in the Orient is taking protective measures. Two steamers are quarantined at Nagasaki owing to the plague having been brought from Hongkong on them. One is the "Empress of China," the other the transport "Kintuck," upon which a Chinese fireman died of plague. The "Kintuck" has 180 United States soldiers and sixteen officers on board returning from the Philippines. A British steamer arrived at San Diego, Cal., June 24th, having sailed from Hongkong May 16th. Five deaths from plague occurred during the voyage. At Hongkong 542 Asiatics and seven whites have died since the beginning of the year.

London Antivivisectionists.—The activity and bitterness of the antivivisectionists was well shown last Sunday when the annual collection for hospitals was taken up. They had boys posted in front of many churches distributing circulars protesting against the collection as they gave aid to vivisection. The President of the Antivivisection Society, Lord Llangattock, has seen fit to defend this action in the press. The collections, however, were as large as ever, and the Lord Mayor has tactfully calmed the indignant protestants.

Lord Lister's Address on Asepsis.—The notable address delivered by Lord Lister at the opening of two new operating theaters in St. Thomas' Hospital dealt with the progress of surgery and the evolution of antiseptic and aseptic technic. In the new rooms the aseptic system will be used instead of the antiseptic, and, though admitting the good thus accomplished, Lord Lister continues to practise Listerism in the old way and to advocate carbolic immersion of instruments and the use of sprays.

Homeopaths and the Army Medical Service.—There is a good deal of feeling over the fail-

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ure of the United States Government to make provision in the army for homeopathic surgeons. Surgeon-General Sternberg, United States Army, is said to be in sympathy with such a movement.

Faculty of Army Medical School.—The following officers have been detailed as members of the faculty of the Army Medical School: Col. William H. Forwood, Assistant Surgeon-General, President of the faculty, *vice* Col. Charles H. Alden, retired; Col. Calvin de Witt, Assistant Surgeon-General, professor of military medicine; Major John Van R. Hoff, surgeon, lecturer on the duties of medical officers in war and peace; Major William C. Borden, surgeon, professor of military surgery, *vice* Col. Forwood, designated as President of the faculty; Major Frederick P. Reynolds, surgeon, as instructor in hospital corps drill and first aid to wounded, *vice* Capt. George D. DeShon, relieved.

Washington State Medical Society.—The following officers were elected for 1902: President, Dr. J. W. Bean of Ellensburg; First Vice-President, Dr. F. H. Coe of Seattle; Second Vice-President, Dr. H. B. Luhn of Spokane; Secretary, Dr. A. H. Coe of Spokane; Treasurer, Dr. J. B. Eagleson of Seattle. Place of meeting, Tacoma.

Quarantine Against Cuba.—A strong disposition has been manifested by the local quarantine authorities of New York and by the Marine Hospital Service to remove the restrictions that have existed so long for persons arriving at this port from Cuba. It is admitted that no danger can arise from their admission if they remain in the northern part of the country. But the impossibility of controlling the movements of individuals when once set free has determined Dr. Doty to continue the present rules at least during the current year.

Obituary.—Dr. E. E. Waite, one of the best-known physicians of New Bedford, Mass., died suddenly in that city on June 20th. He had been in poor health. He was about forty-three years old.

Dr. George Hosmer Magness died at his home at White Plains, N. Y., June 25th, after a long illness. He was born in New York in 1851. Dr. Magness was graduated from the Bellevue Hospital Medical College with the class of 1876. In 1879 he removed to White Plains and built up a large and lucrative practice. He was the physician to the Home of Nazareth and to the Sisters of Divine Compassion.

Dr. James W. E. Roby of Brooklyn died in St. John's Hospital, Long Island City, N. Y., after undergoing an operation. Dr. Roby was thirty-eight years old. He was born in New York and after being graduated from the University of New York in 1887, began to practise in the Eastern District of Brooklyn, and was very successful.

CORRESPONDENCE.

OUR LONDON LETTER.

[From Our Special Correspondent.]

LONDON, June 15, 1901.

THE GENERAL MEDICAL COUNCIL—ITS COMPOSITION—ITS PRESIDENT—ITS MEMBERS—THE DIRECT REPRESENTATIVES—SOME PROMINENT FIGURES—THE FUNCTIONS OF THE COUNCIL—ITS STRENGTH AND ITS WEAKNESS.

OUR professional Parliament, the General Medical Council, is now in session. It meets twice a year, and as each member receives a fee of twenty-six dollars for each day of attendance, there is a natural tendency to the prolongation of sessions. The money is provided by the medical profession itself, each member of which has to pay twenty-five dollars to get his name placed on the *Medical Register* of which the Council is the official custodian. There is a pretty general feeling, however, that the profession does not get any value for its money. Our Medical Council is probably the most costly legislative body in existence, and one of the most loquacious. Every member feels it a duty which he owes to himself as well as his constituents to speak early and often, and as very few of them have anything to say that tends to edification, the oratory is for the most part *vox et præterea nihil.*

The Council is composed of elected representatives of the Royal College of Physicians and Surgeons in London, Edinburgh, and Dublin, of the Faculty of Physicians and Surgeons of Glasgow, of the Society of Apothecaries of London and of the Apothecaries' Hall of Ireland, and of the Universities of the United Kingdom, namely, Oxford, Cambridge, Durham, London, Victoria, Manchester, Birmingham, in England; Edinburgh, Aberdeen, Glasgow, St. Andrews, in Scotland; and the University of Dublin, and the Royal University of Ireland, in the Emerald Isle. Five members are nominated by the Crown, and five are direct representatives of the profession—three for England, and one each for Scotland and Ireland. The direct representatives are elected for five years by the votes of legally qualified members of the medical profession whose names are on the *Medical Register.* Their presence in the Council—which dates only some fourteen years back, whereas the Council has been in existence for over forty years—represents a victory of the democratic idea. The principle was bitterly opposed by the corporations and the universities who may be taken to represent the aristocracy in medical politics, but mainly owing to the efforts of the British Medical Association they were beaten. But, though perforce accepting the situation, they have never forgotten their defeat, and, like the French, they still dream of *la revanche.*

The Council is presided over by Sir William Turner, Professor of Anatomy in the University of Edinburgh, and a man whose high position in

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the scientific world is shown by the fact that he was President of the British Association for the Advancement of Science in 1900. When the last President, Sir Richard Quain, departed this life there was a little difficulty about the election of a successor. Sir William Turner was the most prominent of the *papabili*, to borrow a phrase from the language of a conclave of a different kind; but it was objected that the fact of his living in Edinburgh would cause inconvenience. It was given out, however, that if elected to the presidential chair the Edinburgh professor would resign his chair as soon as he had served out the time required to entitle him to a pension. That time, it is understood, is past, but Sir William Turner seems to be in no hurry to vacate his chair which is estimated to be worth some twenty thousand dollars a year. He is not a Scot, but, like Richard Owen, a Lancastrian by birth. Nor is he a graduate of Edinburgh, having received his medical training at St. Bartholomew's Hospital and graduated at the University of London. He went to Edinburgh to be demonstrator of anatomy under John Goodsir and waited for his chair as long as Jacob did for Rachel. He is the dominant force in the Edinburgh Medical Faculty, and he brings a good deal of the dictatorial manner of the professor to the management of the General Medical Council.

Of the members of the Council the majority are professors, and consultants who know little and care less about the difficulties of the general practitioner. They live in a serene Olympus of academic dignity to which the cries of the doctors *à tout faire* struggling for their daily bread against the injustice of the law, the oppression of officials and the competition of quacks, reach only as a confused murmur mellowed by distance. The direct representatives are supposed to be champions of the general practitioners, but, in the first place, they are numerically a negligible quantity in the Council, and, moreover, they are of little weight personally. It must indeed be admitted that direct representation has so far not been a conspicuous success. This is due mainly to the indifference of the bulk of the profession which has had the result of leaving the elections practically in the hands of the rabble. Hence the profession in England finds itself represented in the General Medical Council by Mr. Victor Horsley who, deservedly eminent as he is in his proper scientific sphere, is in his medico-political aspect a blatant demagogue; by Mr. George Brown who may be described as in manner and tone as well as in purpose the equivalent of the labor representatives in the House of Commons; and Dr. J. G. Glover, a highly respectable family doctor who has for many years played the part of a kindly leading light to the *Lancet*. They are, like Brutus, honorable men, but with the exception of Dr. Glover they have no weight with the better classes of the profession of which they represent the baser elements. Scotland is represented by Dr. William Bruce of Dingwall, of whom, as of "poor Fred" in the epitaph, "there's nothing to be said"; and Ireland, by Sir William Thomson, a man of real distinction who has been President of the Irish College of Surgeons and who did right good work in South Africa as chief of the Irish Hospital in Pretoria. Of the direct representatives he best fulfils the idea of the character. He is a man of high intelligence who commands the respect of the whole profession, a stout but chivalrously fair fighter who can hold his own in debate without violence and scurrility; last but not least he is a gentleman. The direct representatives, few as they are, might do something if they held together. But they are incompatible elements, and the inevitable result is that they form an inert mass, liable to explosions akin to those of the "mad-volcanoes" spoken of by Carlyle.

Of the other members of the Council, the most active and able, is Dr. Donald MacAlister, the representative of the University of Cambridge. Dr. MacAlister had a university career of meteoric brilliancy and might have won the highest prizes at the bar; people were amazed, therefore, when he subsided into medicine. Bringing so exceptionally well-stored a memory and so thoroughly trained a mind as he did to the study of medicine, it might have been expected that he would have shed light into many dark places. But his scientific achievement has been infinitesimal, and as a practical physician he has hitherto failed to make any great reputation. Perhaps he has not exerted himself to do so. He has a versatile mind, and it might be said of him that he knows everything, even a little medicine. He holds a considerable position in his University, and in the Medical Council his clearness of head and grasp of business make him a power. He is the *bête noire* of Mr. Victor Horsley, the tempest of whose passion often dashes itself in foaming impotence against the rock of Dr. MacAlister's solid sense.

Among the other members the most interesting figures are Sir William Gairdner, formerly Professor of Medicine in the University of Glasgow, the very type of the philosophic physician, who can discourse with the copiousness of a full mind *de omni scibili* in medicine, and can bring the most multifarious knowledge and illustrations drawn with equal ease from Greek philosophers and American humorists to elucidate any given problem; and Sir Dyce Duckworth, the representative of the London College of Physicians, who should have lived in the days of full-bottomed wigs and gold-headed canes, and whose tone and manner seem to say,

> "I am Sir Oracle, and when I ope
> My mouth, let no dog bark!"

The Medical Council is entrusted by the State with the charge of medical education and registration, and, moreover, has certain disciplinary powers over members of the profession who are proved to be guilty of conduct "infamous in a professional respect." "Infamy" may attach to any deviation from the straight path of profes-

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sional rectitude from advertising to abortion. An offence which smells with special rankness to the heaven of the Council is "covering," that is, an arrangement whereby an unqualified person practises medicine under the umbrella of one that is qualified. This device is still common, though the Council has done something toward its repression. It has abolished the unqualified assistant who used to have a recognized place in country practice, doing the cheap midwifery and the rough surgery, visiting the lower class patients and dispensing medicines, for a remuneration of five to six hundred dollars. He had from the employer's point of view, the advantage that he was cheap and that he could not start in opposition to his master. A few years ago a decree went forth that the employment of unqualified assistants would be treated as "infamous." It was undoubtedly a right thing to do in the interest both of the public and of the profession; but it was done with a want of consideration for the unfortunate persons thus suddenly turned adrift that smacked of the harshness of trade-unionism. The effect of the measure has been that practitioners have now to employ qualified labor at about double the price they paid for the unqualified, and they complain that they find the young graduates full of book learning, but in practice much less efficient than the humble drudges whom they have displaced.

The action of the Council in suppressing the unqualified assistant shows at once its strength and its weakness. It was able to prevent the registered practitioner from employing an unqualified assistant; but if the latter chose boldly to set up on his own account as a quack, the Council could do nothing to prevent him, as the only punishment it can inflict is removal from the *Medical Register*. In fact, the Council has no power to prosecute quacks, and this is one of the points in which reform is needed. But if the Council were to ask Parliament to grant it larger powers, it is not at all likely that it would get them. The little regard in which the Medical Council is held by the Legislature is shown by the snubs recently administered to it, as related in previous letters. There is a strong anti-medical feeling in the British Parliament at present, which is doubtless largely due to the criticisms which have been so freely made as to the treatment of the sick and wounded in South Africa. This matter will probably come up for discussion in the House of Commons at an early date, when it is to be hoped that one or other of the medical members will deal frankly and fully with Mr. Burdett-Coutts' charges. But in the meantime the feeling which these have roused would make it impossible to get Parliament to pass any bill tending to create a monopoly for the medical profession, or to increase the privileges which it already possesses. There would be a serious chance of any attempt in that direction leading to a relaxation of the existing law regulating medical practice, lax as that is, so that the last state of the profession would be worse than the first.

TRANSACTIONS OF FOREIGN SOCIETIES.

British.

PURE MILK—OMENTAL GANGRENE—PERFORATED GASTRIC ULCER—OVARIAN CYSTOMA—VARIOUS TYPES OF GASTRIC ULCER.

CROWLEY, at the Bradford Medico-Chirurgical Society, May 21, 1901, discussed the importance of a pure milk in communities and described two rather efficacious procedures. One system was working at St. Helen's and Liverpool and consisted briefly in humanizing and sterilizing selected cow's milk, bottling it in quantities for single feedings and delivering a day's supply at a time. The workings of the Manchester Pure Milk Supply Company were a little more thorough. The milk was accepted only from certain farms where the cows were frequently inspected, their hygiene looked after and frequent inoculations with tuberculin carried out. The farmers and their help are also under the control of the Company. If any infectious disease appears in their midst, the milk is refused from that farm until the case is cured and a safe interval of time has elapsed to make the milk healthful and not a possible source of infection. The loss to the farmer meanwhile is made up fully by the Company. The milk is taken to the Company just as soon as possible after being drawn, and there it is carefully strained, cooled and bottled, but not sterilized or humanized. Deliveries are made in daily or half-daily supplies. The great importance of securing pure milk can not be exaggerated. Perhaps in the long run it will be advisable to put the entire milk traffic in the hands of the Government.

J. B. BERRY related the details of three celiotomies. The first was performed on a woman forty-three years old, multipara, who for some time (not definitely known) had suffered from abdominal swelling. During this process she became pregnant and was normally delivered of a full-term child. About fourteen days thereafter the swelling increased and tapping was necessary and had to be done several times. Upon finding the fluid each time more and more foul, a celiotomy was considered advisable, and revealed a walled-off cavity in which a large portion of the omentum was found gangrenous; this was separated quite easily and a large quantity of foul fluid evacuated. The cavity was washed out, drained freely and a wet outer dressing was applied. Slow but perfect recovery followed. The second patient was a seventeen-year-old girl who came under treatment for perforated gastric ulcer. The onset was hyperacute, while she was at work, with pain in the abdomen, faintness and vomiting. When first seen she had abdominal distention, thoracic breathing, pulse 98, temperature 100° F., pallor and shock. Twenty-nine hours after the beginning of the symptoms she underwent celiotomy. A small perforation admitting a probe was found in the lesser curvature of the stomach and closed by a double row of Lembert's sutures. The abdominal cavity was cleansed, but not

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flushed. A complete recovery followed. In the third case, a woman had a large ovarian cystoma, which when emptied was found to have held seventeen and a half pints of turbid fluid. A straightforward recovery followed.

MR. HALL read a paper on the subject of gastric ulcer and its various types. Of these he thought there should be three, namely, the hyperacute or fulminating, the subacute or insidious, and the cases with localized abscess, the perigastric abscess of some writers. This classification is exactly parallel with that usually adopted to distinguish the forms of appendicitis. In the hyperacute cases no opportunity is given for any walling-off by the general peritoneum. In the subacute cases diagnosis is often very difficult and obscure. With localized abscess, we know the perforation has occurred and the peritoneal cavity has been protected, because the process has been slower. In the subacute cases a very safe rule to adopt will be that after careful physical examination and watching, if in doubt, explore. Of course, occasionally this will lead to operation when one might have been avoided, but the number of such will be far less than of those whose lives will be entirely saved by the procedure.

SOCIETY PROCEEDINGS.

AMERICAN MEDICAL ASSOCIATION.

Fifty-Second Annual Meeting, Held at St. Paul, Minn., June 4-7, 1091.

SECTION ON MATERIA MEDICA, PHARMACY AND THERAPEUTICS.

Experimental Work in Intra-organic and Venous Injections in the Cure of Acute Organic Diseases.—The first paper was one on this subject by Dr. W. B. Coakley of Chicago, It dealt largely with saline solutions, which he contended had a very definite and useful place in practical therapeutics, although it was well known that exaggerated claims were made in regard to their efficiency in prolonging life and otherwise. Injections might be made into quite a number of organs without producing untoward symptoms, and the physiological experiments showed remarkable results in the way of restoring animation to animals in a state of collapse.

The Neglect of Valuable Therapeutic Measures.—This was the subject of a contribution by Dr. G. F. Butler of Chicago. Medicines and therapeutic agencies generally, he showed, were subject to fashion, and many useful remedial measures were neglected because of prejudice or the influence of commercial interests. Bloodletting, the use of normal salt solutions, counterirritation, complex prescriptions, hydrotherapy, massage, mechanotherapy, dietetics, suggestive therapeutics and physical culture had all received less attention than they deserved, in some cases because of the reaction against them caused by their having been carried too far, and the result was that a large field of natural therapeutics had been left to Faith Curists, Christian Scientists, Osteopaths and others, who had not hesitated to turn them to the greatest possible account.

Therapeutic Indications Presented by the Conditions of the Blood in Disease.—Dr. O. T. Osborne of New Haven, Conn., read a paper with this title. He contended that in the blood might often be found a key to the doubts that existed as to whether a patient would recover or not, and on this and other accounts he entered an earnest plea for greater attention to this department of investigation. He gave details of a number of interesting experiments he had made on dogs, and also reported the results obtained in different diseases on the human subject.

Chronic Myocarditis.—This paper by Dr. J. H. Musser of Philadelphia will appear in an early issue of the MEDICAL NEWS.

The Treatment of Obesity.—This subject was presented in a paper by Dr. Heinrich Stern of New York. He said that obesity was generally to be regarded as symptomatic, and therefore each case should be studied individually with the view of discovering its actual character and the causes that were responsible for it. Much harm was done by many of the methods in use for reducing corpulency.

The Treatment of Neurasthenia.—Dr. H. N. Moyer of Chicago in this paper said there was, he thought, a widespread misapprehension among members of the profession as to what constituted neurasthenia. It was frequently confounded with hysteria and hypochondria. There would be no objection to this confusion if the treatment was the same, but he believed that the failure to distinguish one from the other accounted for the large number of failures that took place in the treatment of neurasthenia. Correct diagnosis, therefore, in his opinion, was of primary importance. The distinctive feature of neurasthenia was the symptom of fatigue. If that symptom was absent it might be assumed that there was no neurasthenia. Hysteria never presented this symptom, and hypochondria was always founded on a pure delusion. A distinction ought also to be made between primary and secondary neurasthenia, and he would never determine that a case was primary until all possibility of its being secondary had been eliminated by process of exclusion. In primary neurasthenia, the rest cure was very effective, but in secondary neurasthenia, unless properly modified, it frequently did harm. The habits of life of every patient should be carefully regulated, and hydrotherapy ought never to be neglected. In regard to drugs, he differed from some of his associates by making strychnine his sheet anchor, and he also got good results from cannabis indica, the object of giving these drugs

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being to produce a desired psychical state in the patient, but nothing more. It was a species of suggestion, and in the same connection he said the larger the dose of the doctor a neurasthenic got and the smaller the doses of medicines, the better it would be for him. He did not advise hypnosis and would not practise it, but the patient should be encouraged to think he was getting better. Cases of hysteria, he admitted, might develop into neurasthenia, and such cases were peculiarly difficult to deal with. He would not attempt to lay down a diet suitable for any group of cases, believing that each individual must be treated according to conditions and circumstances, but he placed a great deal of reliance on milk, using it when necessary in modified form.

Standardization and the Pharmacopœia.—Two papers were read on this subject, the first by Dr. C. F. Wahrer of Fort Madison, Iowa, being entitled "A Plea for More Uniformity and Strength in Our Armamentarium," while the second, by Dr. A. B. Lyons of Detroit, Mich., dealt with "The Standardization of Crude Drugs and Galenical Preparations." Dr. Wahrer said his views might be regarded as Utopian, but it was only by continually agitating this subject that they could hope to effect any improvement on the present unsatisfactory state of affairs. Physicians now knew more about the etiology of diseases and were better able to make a correct diagnosis than they were formerly; but he was afraid the question, Has therapeutics kept pace with advances in other branches of medical science? must be answered in the negative. This was not because the pharmacist had been idle, since many new remedies of undoubted value had been introduced. The misfortune was that they had no guarantee as to the quality of the drugs they made use of in fighting disease. Even the Pharmacopœia was open to criticism on the ground that it did not make adequate provision for the uniformity and strength of remedies that were officially recognized. This fact coupled with the cupidity and dishonesty of many manufacturers and the ignorant and careless making-up of prescriptions made the outlook for the sick man anything but cheerful. It was of little use for physicians to be able to make a correct diagnosis and know the proper remedy to prescribe, so long as they were ignorant of the quality of the drugs that were used in making up their prescriptions. He was far from wishing to reflect on manufacturing houses of high ethical standing, such as several he mentioned. It was well known, however, that there were other concerns which were continually forcing new remedies, often claiming to be specifics, on the attention of the profession. What was worse, the profession bought these drugs, and wrote testimonials in their favor, some of those who did so being professors in medical colleges with pretensions to high standing. No matter who they were, he thought all those who endorsed nostrums should be dismissed from their positions, and left free to devote all their time to the exploitation of the so-called remedies with which they had allowed their names to become associated. He thought that a body like the American Medical Association could do much toward bringing about a more satisfactory state of affairs, and he suggested that a committee be appointed for the purpose of trying to get the Pharmacopœia amended in such a way as to ensure the standardization of drugs and legislation passed by Congress to prevent adulteration.

Dr. Lyons, after making some complimentary remarks about the paper just read, gave illustrations of the extent to which vegetable drugs varied in medicinal activity, and argued that scientific medication required that preparations made from them be brought to some uniform standard of strength. Individual manufacturers supplied standardized preparations, but many of their assay methods were confessedly imperfect. Standardization by these methods was better than none, but it would be infinitely better if one set of standards was set by the Pharmacopœia. In the recent revision of that work, it was much to be regretted that standardization by physiological test had been ruled out.

Dr. C. S. N. Hallberg of Chicago, in discussing the papers, while in favor of drugs being standardized as far as possible, said it was difficult to apply any uniform rule so long as the active principle of certain drugs, such as aconite and digitalis, remained unclearly defined.

Dr. F. G. Wulling of Minneapolis, as a practical pharmacist, admitted the difficulties in the way of universal standardization, but at the same time contended that much might and ought to be done to bring about more uniformity than at present existed. Physicians, he thought, were equally to blame with pharmacists, and he suggested that they should make themselves more familiar with the contents of the Pharmacopœia and with materia medica generally, so as to be in a position to rely more on their own prescriptions and less on readymade preparations. The medical schools, in his opinion, ought to make the Pharmacopœia one of their text-books, and pay more attention to the teaching of materia medica and pharmacy.

The Chairman, as a member of the Committee charged with the revision of the Pharmacopœia, said he had always wished that the work could be changed in such a way as to make it interesting and practically useful to physicians. With a view to this he was in favor, on the one hand, of the exclusion of a great deal of matter that was now retained simply because the remedies it referred to were still used in certain parts of the country, though they had ceased to be used by the pro-

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fession generally, and, on the other hand, he advocated the inclusion of information in regard to new remedies. It was the latter particularly that the physician wanted to know about, and reliable information should be furnished in regard to them irrespective of whether they had been standardized or not. They might be placed in an appendix, or otherwise distinguished from other drugs. What was important was that the Pharmacopœia should be a real encyclopedia of medical knowledge.

The Treatment of Pulmonary Tuberculosis.—A symposium on this subject was contributed to by Dr. S. E. Solly of Colorado Springs; Dr. Norman Bridges of Los Angeles, Cal.; Dr. Arnold C. Klebs of Chicago, and Dr. A. Burroughs of Asheville, N. C.

Indication for and Utility of Altitude Treatment.—Dr. Solly in his paper on this subject said that the climate of Colorado was intermediate between the cold that prevailed in the Alps and in some parts of Canada and the warm temperatures of New Mexico and Arizona. In considering the choice of places to which to send patients, it was necessary to take into account the general health, and the nature of the tuberculous disease, as well as the extent to which it had advanced. The cases that did best in high altitudes were primary cases, those that appeared like lightning from a clear sky without any obvious cause. He hoped the new sanitaria would lead to more scientific study of cases in their earlier stages and a better selection of the patients who were sent to different regions for climatic change.

The Adaptability of Southern California and Similar Climates to the Needs of Consumptives.—Dr. Bridges' claims for the region referred to were its relative dryness, the small rainfall, the large amount of sunshine, the fact that it had both high and low altitudes, and the mildness of the climate all the year round, which permitted patients to spend a large proportion of their time in the open air. Dr. Bridges also read a paper on "The Proper Management of the Tuberculous Lung," in which he maintained that the best course to pursue was to give the affected lung rest, and that this could be done most satisfactorily by means of external fixation.

Specific Therapeutics in Pulmonary Tuberculosis.—Dr. Klebs in his paper reviewed the culture products and serums used in the treatment of the disease, and also discussed the merits of pharmaceutic preparations of alleged specific value, the conclusion at which he arrived being that there was no drug possessed of specific virtues so far as tuberculosis was concerned, and that the best course for the general practitioner was to follow as far as possible the dietetic and hygienic treatment practised in the sanitoria.

Nineteen Years' Experience with Creosote.—Dr. Burroughs advised giving this drug in large doses and continuing it two years after all symptoms had disappeared. In his opinion no other medicine gave such good results in the treatment of tuberculosis.

Treatment of Pneumonia.—Dr. De Lancey Rochester read this paper in which he contended that, as the main factor in the disease was toxemia and no effective antitoxin had yet been discovered for counteracting its effects, medicines should be given for the purpose of eliminating the poison by natural means.

Gastric Disorders.—Dr. Boardman Reed of Philadelphia, opened a symposium on gastric disorders by reading a paper on "The Influence of Certain Common Remedies upon Gastric Functions." He showed that organs which were acting normally were liable to derangement by drug stimulation, and that a great deal of harm was done by the indiscriminate taking of medicines which were supposed to be harmless. Experiments he had made showed that hydrochloric acid and pepsin, when given separately, each tended to impair digestion, whereas given together they improved it.

The Treatment of Gastric Ulcer.—This was the subject of a paper by Dr. Gustav Fütterer of Chicago. There was always danger, he said, of ulceration of the stomach being followed by carcinoma. Nor was it always safe to assume that the disappearance of the symptoms meant that this danger had passed. Therefore the patient must be kept under observation for some time. As to treatment, he gave beef-juice properly prepared direct from the beef, and insisted on the patient getting absolute rest. Where there was any serious obstruction, he was in favor of an early gastro-enterostomy.

The Treatment of Hyperesthesia.—Dr. Charles G. Stockton of Buffalo said it was a mistake to regard hyperesthesia as a disease of the stomach, as it was in reality a derangement of the organism of which the stomach was the index. In reference to treatment, he advised the giving a slight diet of milk, farinaceous foods and eggs. Hydrotherapy was of great use and electricity could also be employed with advantage.

Dr. J. B. Herrick of Chicago complimented Dr. Fütterer on the useful work he was doing by investigating the character of gastric ulcers and ascertaining the different complications to which they gave rise. Clinical experience confirmed the results obtained experimentally, showing that cases in which the blood was deficient were the most likely to develop carcinoma. He agreed with Dr. Fütterer as to the advisability of early operation in the cases he had referred to, and he also agreed with him in regard to general treatment, except in this respect that he relied more on milk than on beef-juice, and when the patient was beginning to improve he added a little iron. Dr. Osborne observed that they could not be too careful in guarding against the common mistake of treating hyperesthesia as dyspep-

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sia; Dr. McCoy of Duluth called attention to the special need there was in such cases to see that the food of the patients was properly prepared, and Dr. Boardman Reed said that the word "dyspepsia" had been much abused and it would be well if it were abolished altogether.

Organotherapy.—Papers under this head were read by Dr. Sydney Kuh of Chicago; Dr. John M. Dodson of Chicago, Dr. E. M. Houghton of Detroit, and Dr. Jokichi Takamine of New York. Before they were taken up, the Secretary read an abstract of a contribution which had been sent in by Dr. S. Solis-Cohen of Philadelphia on "The Theory and Practice of Organotherapy."

Dr. Kuh's contribution consisted of a report of cases in which acromegaly had been successfully treated with pituitary body, and Dr. Dodson's of a report of cases where the thymus extract had been effective in the treatment of Graves' disease.

Dr. Houghton described the pharmacology of the suprarenal gland and a method of assaying its products. He made special mention of adrenalin, the active principle of the suprarenal gland recently discovered by Takamine, and stated that it was 600, 800 or perhaps 1,000 times as strong as the ordinary aqueous solution of the gland.

Dr. Takamine gave a detailed account of the efforts that had been made by previous investigators to isolate the active principle, and of the partial success which had been obtained by several of them, notably Fürth and Abel. He gave full credit to these gentlemen and others for what they had done, but at the same time maintained that in adrenalin the active principle of the gland had for the first time been isolated in a free, basic, crystalline form. The physical and chemical properties of the product, the method in which it was prepared, its physiologic activity and the therapeutic uses to which it had been successfully put were also described by the speaker.

Dr. Victor C. Vaughan of Ann Arbor said Dr. Takamine was to be congratulated on having carried to a successful termination the efforts to solve a problem which had for so long a time engaged the attention of some of the most eminent men in this country and in Europe. There could be no doubt at all as to the utility of the extracts of different glands, and it was impossible to foresee what the next few years might develop in connection with organo and serum-therapy. Personally he had obtained extraordinary results from adrenalin in the treatment of long-standing hemorrhages.

Questions in regard to the properties of the drug having been put by several members of the Section, Dr. Vaughan said that he had not found that it had any untoward effects even when used daily for so long a period as three months. Dr. Houghton said that experiments were in progress with the view of deciding some points that were still unsettled. Dr. Takamine said he had confined himself to the chemical work of isolating the active principle; it was for physicians to test the drug and determine its therapeutic value.

A paper by Dr. B. T. Whitmore of New York on "America's Contribution to Medical Science" was read by title, which brought the literary part of the proceedings to a close.

Dr. George F. Butler of Chicago was elected Chairman of the Section for the ensuing year, and Dr. C. S. N. Hallberg of Chicago, Secretary.

BOOK REVIEWS.

CHRONIC URETHRITIS OF GONOCOCCIC ORIGIN. By J. DE KEERSMAECKER and J. VEERHOOFEN. Translated and Edited by LUDWIG WEISS, M.D. William Wood and Company, New York, 1901.

IT is always a difficult task to adapt any work treating upon highly specialized subjects to the needs of the general practitioner. In that respect, Dr. Weiss' excellent translation of De Keersmaecker and Veerhoofen's admirable work must fail. The reason is made plain in Oberländer's preface, *viz.:* "The study of urethroscopy is long and laborious, indeed. . . In the work which Drs. De Keersmaecker and Veerhoofen now present to the medical public, they have exposed with distinctness the principles of urethroscopy. Its study will thus become an almost easy matter for him who is willing to devote to it the necessary time, for he can only attain it by perseverance and after having attentively examined a large number of patients." Known for some years favorably to those who understand French, it is now presented in English, and must prove a valuable and desirable addition to the specialist's library. For the general practitioner, however, it is no more available now than in the original.

Of the contents, the chapter on the Anatomy of the Urethra is good, and that on the Pathology excellent; those dealing with urethroscopy bring that subject up to date, and are clear and complete; that upon Urethral Asepsis is very good, and that on Gonorrhea and Marriage rational and well worth reading. While the original chapters on treatment still contain much that is old, that by the editor on modern methods serves, in a measure, to remedy this defect. We regret, however, to see so little reference to the rôle of the prostate in the causation of chronic urethritis. A large percentage of all cases of gonorrhea show an involvement of the posterior urethra (in most of these this is equivalent to a gonorrheal prostatitis), and that these are among the most intractable should lead us to realize the enormous possibility of continuous re-infection of the urethra from this source. The book does not, therefore, by any means solve the problem of chronic gonorrheal urethritis.

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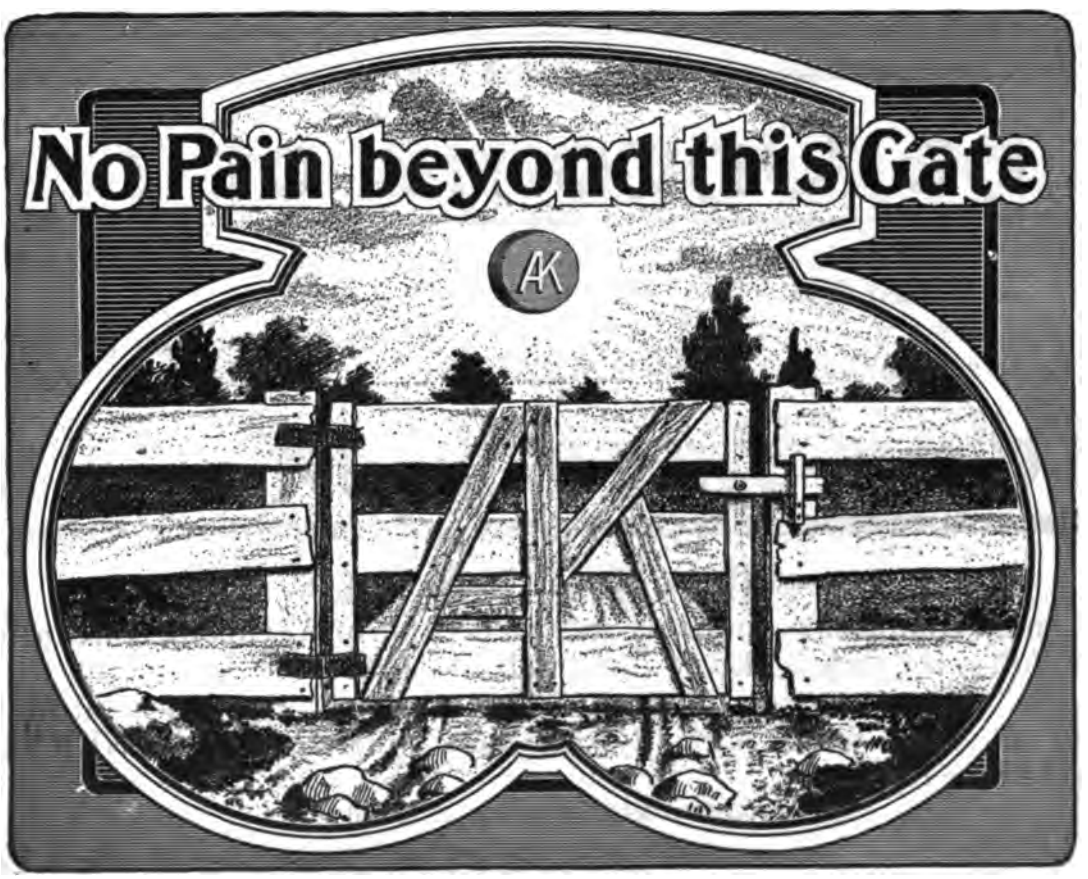

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Medical Echoes.

Phonographs for Nervous Depression After Anesthesia.—Dr. Laborde has described to the Academy of Medicine of Paris a method of extracting teeth without pain and with the accompaniment of sweet music. The patient is put under the influence of gas after his ears have been connected with the tubes of a phonograph, which is rolling off gay tunes. The idea of this dentist was inspired by the fact that when the gas begins to act on the patient it generally causes terrifying nightmares, which are connected with sounds in the room or on the street. By drowning all these sounds with music such nightmares would be avoided.

Dr. Laborde suggests that this method might be employed with beneficial effects in operations which are conducted under ether or chloroform to do away with the risk of the after effect of nervous depression.

Complete Sterilization Causes Death.—French investigators have put guinea pigs through a thorough course of sterilization with fatal results, and the inference is that an unsterilized world somehow has in it elements of vitality that cannot be put away with impunity. MM. Charpin and Guillemonat have reported their experiments to the Académie des Sciences of Paris. They took twenty-seven guinea pigs, put them in disinfected cages, fed them with sterilized food and allowed them to breathe only sterilized air, and nineteen of the twenty-seven died. Of twenty-nine other pigs, treated as nearly as possible like the others save that no attempt at sterilization was made, only ten died. The first lot also lost much more weight than the second.

Who Really Was to Blame?—*The New York Medical Journal* publishes this erratum: "In our list of births, marriages and deaths, published last week, it was announced that a son had been born to Dr. and Mrs. S. Nelson Irwin, whereas we learn now that it was a daughter. The error was not ours."

Congenitally Lacking Eyelid Supplied.—Fourteen-year-old Joseph Cambardiel, of New York, born with a deficient left eyelid which prevented him from winking or entirely closing his eye, was operated upon at Fordham Hospital, Sunday. The surgeon cut a piece of skin about an inch square from his left cheek, which he applied to the lad's left eyelid, one end being allowed to remain intact on the cheek, to continue the nourishment of the fragment.

One on the Doctor.—"No, I am not a Christian Scientist," said Kandor.

"But you believe in throwing physic to the dogs," remarked Dr. Krabbed.

"Not if it happened to be your physic and my dogs."

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Curious Chinese Twins.—Curious Chinese twins are now being exhibited in Europe. Like the famous Siamese twins, they are joined together at the lower part of the chest. These twins are boys, and they were born in China a few years ago. They are of normal intelligence, and each weighs thirteen kilogrammes. Four years ago they had smallpox, the infection passing in twenty-four hours from one to the other. One day whiskey was given to one of them and yet it was the other one who first began to show signs of intoxication. They go to sleep about the same time, but it is possible to awaken one without arousing the other. They can walk and run with ease, and when they lie down they very quickly find a comfortable position. M. Chapot-Prévost, a scientist, who has given much attention to monstrosities of this kind and who successfully performed an operation some time ago on two girls who were similarly joined, recently examined these twins and concluded that the ligament uniting them could be severed without much, if any, risk. He therefore suggested that this be done, but those in charge of the twins said it was impossible, as it was the will of the Chinese god Khango that the boys should be born thus, and his will must be respected.

Says Dogs Have Appendicitis, and Shouldn't Eat Bones.—Dr. William Cooper Eidenmuller of San Francisco claims to have discovered, while performing an autopsy on the remains of a family pet, that dogs may be subject to appendicitis.

"When the animal died," said the physician, "I was not satisfied with the cause of his taking off and made a careful autopsy. I was assisted by a veterinary surgeon, and we had not been long at our task when it became evident that death had resulted from acute appendicitis.

"The animal had been ill for a year, and in reviewing his symptoms I can see that they were identical with those of humans who suffer from recurrent attacks of this disease. Of course I did not at first think of a dog suffering from anything of this sort. There was no record of such a disease among animals.

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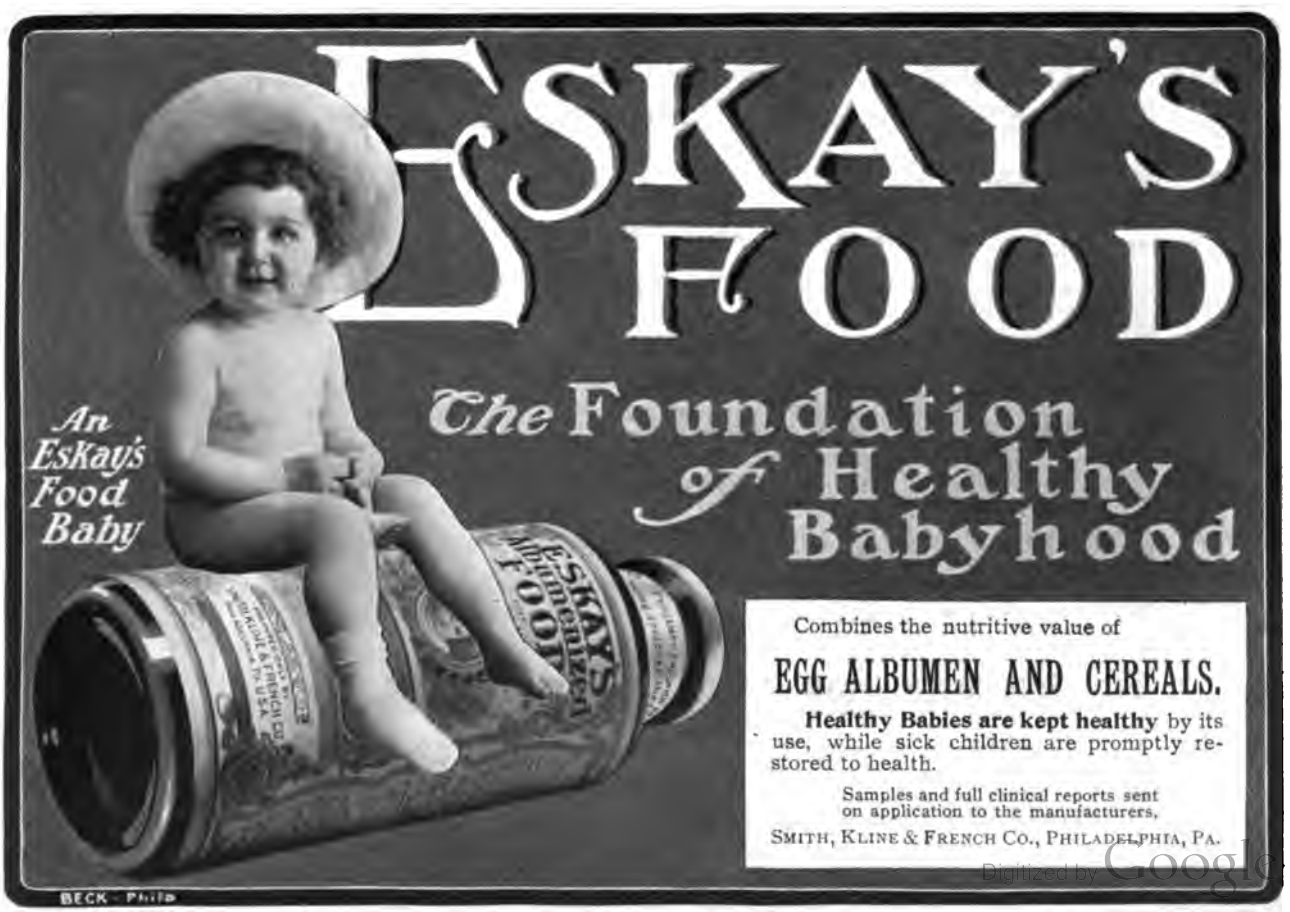
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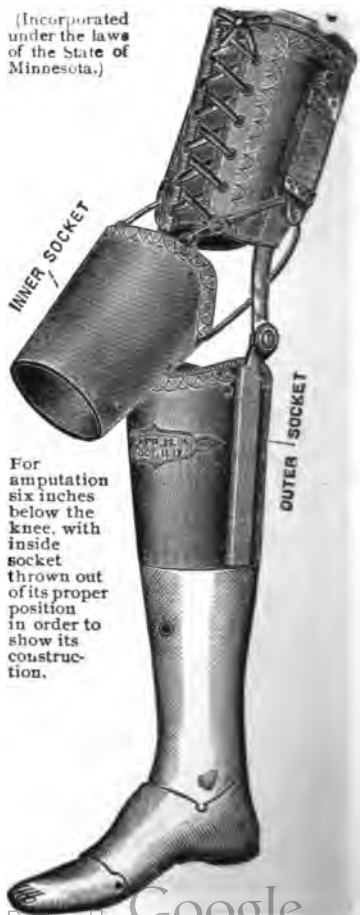

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